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Hair-Splitting Exactitude . . .

Zeiss Toolmaker's Microscope being used for checking dimensions of newly purchased tap against accurate thread form standards.

TO 1/100,000 OF AN INCH!

PRECISION DIMENSIONAL CONTROL ASSURES ACCURACY AND LONG LIFE

in PITTSBURGH-NATIONAL WATER METERS

A human hair is approximately 3/1000 (.003) of an inch thick. Imagine, if you can, splitting a hair into 300 equal parts and being able to measure each individual subdivision. This graphic example is used to illustrate the almost infinitesimal dimensional measurement that is accomplished every day in the Standards Department of the Pittsburgh Equitable Meter Company.

This department, which developed out of the normal demand for manufacturing accuracy in volume production, was originally installed in 1937 and has been greatly expanded since. Many of this company's achievements in handling wartime projects would have been impossible without the dimensional exactness that is provided through our Standards Department. *We have recently been awarded the "A" rating of the Army Air Forces for quality control.*

Accuracy in the performance of meters made in large production is of necessity dependent upon the accuracy of the tools, jigs and gages that guide the machining and assembly procedures. The hair-splitting exactitude to which these manufacturing appurtenances are held by Standards control assures an accurately made and fitted product, capable of a long and useful life.

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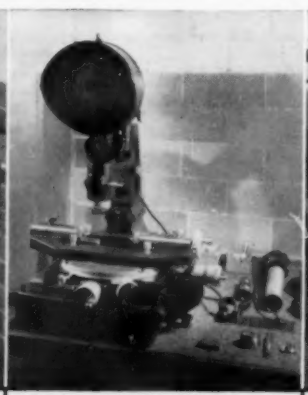
LOS ANGELES · SAN FRANCISCO · MEMPHIS · SEATTLE · NEW YORK · TULSA

NATIONAL METER DIVISION, Brooklyn, N. Y.

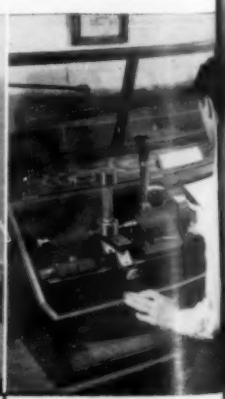
INVEST TODAY IN BONDS FOR VICTORY

·neral View of Equipment in Standards Room. These quarters are -conditioned to assure normalcy while tools, gages and parts are tested.

Jones and Lamson Pedestal Comparator and Measuring Machine being used to check a tap for wear after service.



The Zeiss Toolmaker's Microscope in use checking a production part for correct contour against the standard outlined on the projection screen.



Pratt and Whitney Meas ring Ma The Micrometer Gra uated reads directly to 1/100, 00 of a

Post-War Planning by Citizens

Private Enterprise and Public Employment

IN the opinion of the Mayor* of Baltimore, the big job of post-war planning for American cities will require the combined skill and energy of public officials, business enterprise, and citizens' organizations.

Accordingly, the Mayor appointed last October the Baltimore Committee for Post-War Planning. That committee, under the chairmanship of Bancroft Hill, president of The Baltimore Transit Company, has now issued in pamphlet form a progress report entitled "Baltimore Plan." This report points out that predictions as to post-war conditions in American cities may be divided roughly into five main classifications:

1. Business will be good for many years because of the momentum it now has.

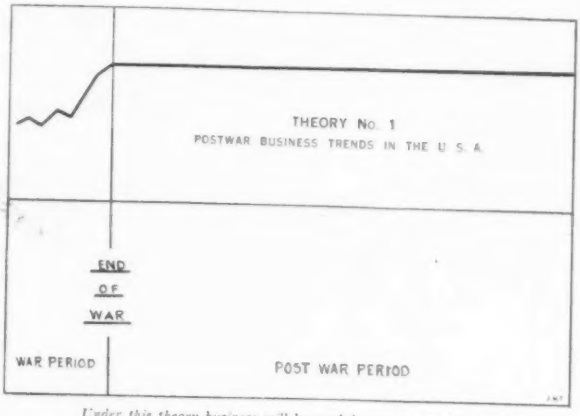
2. History will repeat. The end of the war when it comes will be quick and followed by one or two years of very active business, then a short, sharp drop, then recovery with a longer period of active business, and then a long deep depression approaching a catastrophe.

3. That business will follow a similar pattern to 2, but will follow that pattern not because of any history of business after other wars but because of the way business is shaping in this war. It is expected by this division of thought that the end of the war when it comes will be quick.

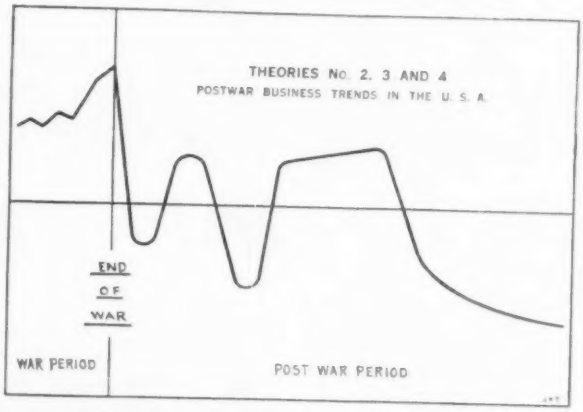
4. That business will follow a similar pattern to 2, not because of history repeating or of present business conditions, but because it is expected the war will end gradually, the war with Japan lasting for a year or two longer than that with Germany; and that, during this period, there will be time for a gradual return to at least partial civilian production and employment, after which business will go through the usual cycles—boom, deflation, prosperity and depresion.

5. That the end of the war when it comes will be quick, that the problem of transition will be too gigantic for us to cope with and there will be a condition approaching chaos.

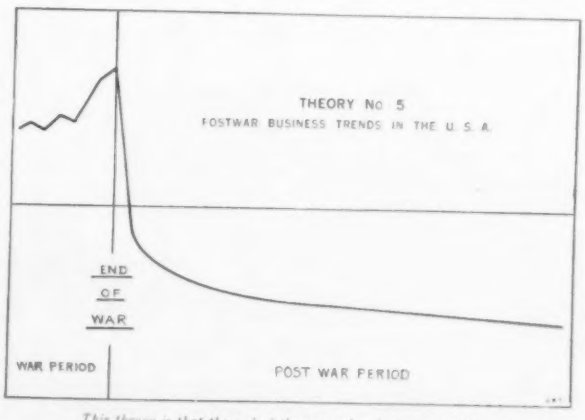
The "Baltimore Plan" discusses these alternative predictions in some detail and visualizes them in the graphs here reproduced. It then goes on to say:



Under this theory business will be good for many years because of the momentum it now has.



Under this theory a pattern similar to that which followed the last war is predicted, although arrived at through three different lines of reasoning.



This theory is that the end of the war, when it comes, will be quick; that the problem of transition will be too gigantic for us to cope with and there will be a condition approaching chaos.

"We also realize that conditions now change very rapidly, and that what may today appear as a sound assumption or prediction may tomorrow be obsolete. However, we must assume some condition to meet or we cannot begin to plan. We believe that a careful study of the five main classifications and the angles bearing upon them will lead to the conclusion that we should plan to meet large unemployment and also the dangers of post-war inflation with its attendant crash. These plans must be flexible enough to go with changing conditions."

Discussing the part that private enterprise and public works should play in post-war readjustments, the report says, in part:

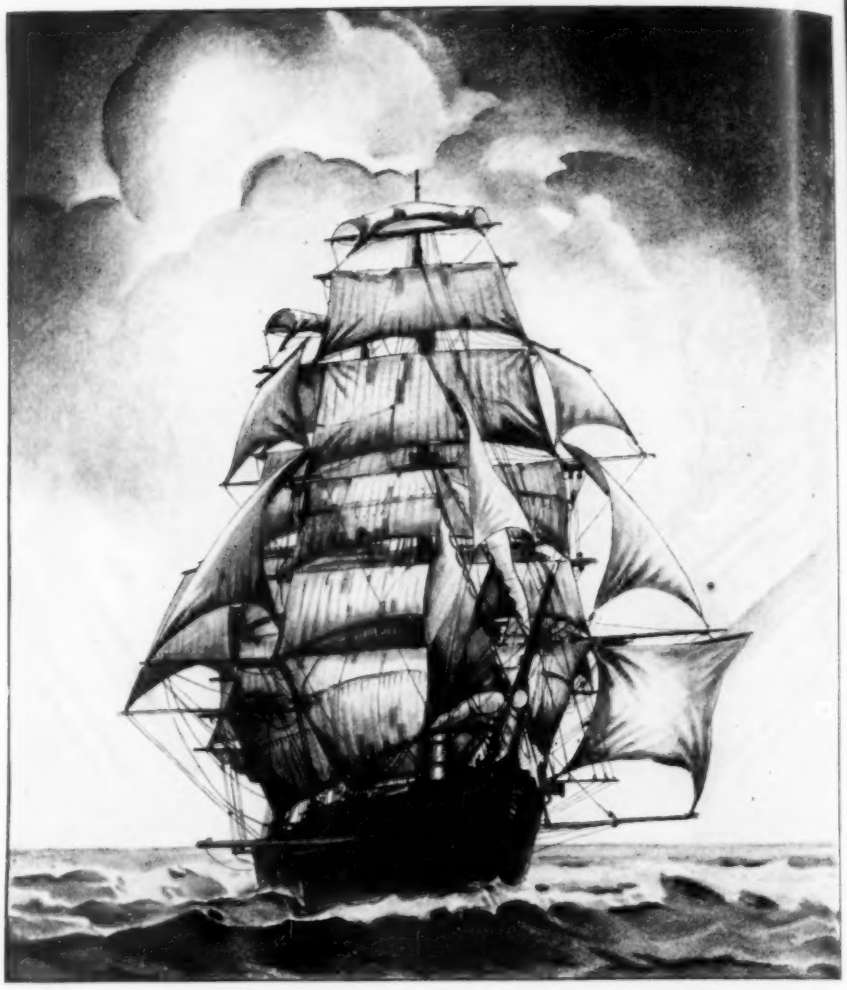
"In brief, a concerted effort is being made, without any illusions as to the tremendous difficulties involved, to develop through private enterprise the maximum post-war employment.

"However, there should be available a large reservoir of public employment which will be supplemental, that is, projects which are desirable but not indispensable. Your Committee, with the cooperation of city, state and Federal officials, is now at work on lists of both the essential and the desirable projects. They include such things as waterworks, sewers, schools, highways, playgrounds, etc. These projects are, of course, mainly local. Taken altogether they may furnish a very large amount of work. The projects making up this reservoir of work should be selected with care, and after they have been so selected complete plans and specifications should be drawn up and held in readiness.

"In considering these projects the Committee realizes that the established public works of this kind (especially in the older portions of the City) have been largely based on the needs of the 19th Century, which are quite different from the post-war needs of a city of Baltimore's size. Unless the physical aspects of Baltimore City can be brought up to date, there will be a rapid decline in the utility of the land in the center of the City, with a commensurate reduction of the taxable basis of this area which now furnishes a great portion of the City's tax revenue."

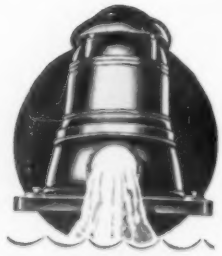
Other major problems discussed include port development, aviation and "deferred maintenance" for industry and business.

* The Baltimore Committee for Post-War Planning was originally set up under former Mayor Howard W. Jackson (Democrat) and is being continued with the active cooperation of his successor, Mayor Theodore R. McKeldin (Republican).



THE OLD WINDJAMMERS

The old "windjammers" were built to sail the heaviest seas that rolled. In fair weather or foul, with rare exceptions, they delivered their cargoes. It was sturdiness in build, skill in design and quality of materials that made them give such good service.



It is in a like manner that Layne Pumps and Well Water Systems are constructed:—sturdy—efficient—long lasting—and above all, reliable. Some have been in service for a quarter century. Later installations were designed and built to last even longer.

Such outstanding quality will make Layne Pumps and Well Water Systems first in choice for the post-war era. They will be chosen wherever large quantities of water must be produced at exceptionally low cost. Layne Pumps and Well Water Systems have been proven the world over—proven for basically sound quality, advanced engineering features, sturdiness in construction, unequaled efficiency and outstanding reliability.

For the duration the Layne Organization is, in addition to doing much urgent war work, endeavoring to keep present installations in repair and operating at top efficiency. If you wish literature, address, Layne & Bowler, Inc., General Offices, Memphis 8, Tennessee.

LAYNE AFFILIATED COMPANIES

Layne-Arkansas Co., Stuttgart, Ark. • Layne-Atlantic Co., Norfolk, Va., Savannah, Ga., Orlando, Fla. • Layne-Central Co., Memphis, Tenn. • Layne-Northern Co., Mishawaka, Ind. • Layne-Louisiana Co., Lake Charles, La. • Louisiana Well Co., Monroe, La. • Layne-New York Co., New York City and Pittsburgh, Pa. • Layne-Northwest Co., Milwaukee, Wis. • Layne-Ohio Co., Columbus, Ohio • Layne-Texas Co., Houston and Dallas, Texas • Layne-Western Co., Kansas City, Mo., Chicago, Ill., and Omaha, Neb. • Layne-Western Co., of Minnesota, Minneapolis, Minn. • International Water Supply, Ltd., London, Ontario, Canada.

LAYNE
WELL WATER SYSTEMS
DEEP WELL PUMPS

BUILDERS OF WELL WATER SYSTEMS FOR EVERY INDUSTRIAL AND MUNICIPAL NEED

Our Municipal Notebook

Municipality Rather Than Contractor Should Select Equipment

IN many states—and probably most—the practice is that contractors bid not only on the construction work for a sewage-treatment plant, but on the equipment involved as well. In other words, the contractor indirectly selects, for instance, the flocculators, coagulators, compressors, motors, automatic control equipment, pumps, etc., because he turned in the lowest total bid.

This practice hardly seems reasonable, yet it is still common, except in such states as Ohio and Iowa, where the cities must take separate bids on the equipment involved in a construction contract. Where this is not done, the contractor, in order to survive, must shop around for the cheapest machines that will comply with the specifications. These machines, be it known, are the heart of the project. To the owner or city, the construction is incidental to the annual and daily performance of the equipment. Quite obviously, therefore, the owner or city should buy this equipment on bids entirely separate from the construction project. Doing so, permits the contractor to concentrate on the details of construction—his specialty.

What appears to be a logical method of handling such a project—whether water, sewage, electric, etc.—is to have the city's engineer include in his construction specifications fixed sums for each item of equipment. In bidding on the project, the contractor accepts and includes these sums in his estimate—giving no thought to the type, make, or cost of machines which the city finally selects and furnishes to the successful contractor for installation. This logical method is said to have been devised by Howard R. Green, Consulting Engineer, Cedar Rapids, Iowa.

"I do not know that we invented the system of 'fixed sum method' of purchasing mechanical equipment," writes Mr. Green, "but at least we have been using it for 15 years and like it for the following reasons:

"1. It gives us control of the purchase of equipment and permits us to recognize factors of design, guaranteed efficiency, and the record of the manufacturer in standing behind his product, as well as the quoted price.

"2. It systematizes the receiving of bids so that the general contract can be awarded immediately, and the contractor can go to work fully protected as to price of mechanical equipment.

"3. It gives us time, following the receiving of proposals, to tabulate the characteristics and prices of various items of mechanical equipment offered and to make our selection at a later date than that of the award of the general contract.

"4. It is fair to all parties concerned. It does away with the possibility of a favored price to a favored contractor by a manufacturer.

"Having used this system on scores of awards, we have been careful to check with city councils, state boards, contractors and equipment producers as to their reaction. I would say that 95 per cent of all parties concerned like the system. There have been a few scattered cases in which a very good contractor has been highly indignant at having to install selected equipment which did not meet his approval. There have been other cases where high grade contractors have had long association with some particular manufacturer—and I assume have enjoyed preferential prices—and in such cases, of course, this system is not accepted enthusiastically.

"It is our practice to segregate the 'fixed sum items of equipment' in the specifications in a separate section so that we can furnish the specifications to equipment manufacturers without a deposit charge and they are spared the expense of contacting possible bidders, inasmuch as they have only the engineer or the ultimate purchaser to sell."

If the foregoing is not a logical and desirable way for municipal departments to acquire the equipment which they must operate year in and year out, THE AMERICAN CITY will welcome better suggestions.

UTICA POLICE GET GAS MASKS

The Utica, N. Y., police department has furnished gas masks to its regular officers as well as to the auxiliary police units.

Municipal Positions Wanted for Capable Educated Chinese

CAN you use a few engineers or technical men on your municipal staff for the duration? The Chinese Wartime Planning Committee, of which Dr. T. V. Soong, Chinese Foreign Minister, is Chairman, and Mr. Chih Meng is Executive Director, has a number of men whom it would like to place in well-operated municipal departments of water supply, sewers, street maintenance, garbage and refuse collection, public health, municipal electricity, or airports.

These men are all well educated, holding from one or two degrees from America's leading colleges and universities. They desire to obtain experience through work, and expect salaries in accordance with the scale for the work they would do. "We expect to send these men back to China at the end of the war," states Dr. Yih, who has charge of their placement, "assigning them to places of responsibility so that they can be influential in helping execute our post-war program of rehabilitation. China has a definitely formulated post-war program and this is one of its phases."

If interested, write to The Chinese Institute in America, 119 W. 57th Street, New York 19, N. Y., or contact THE AMERICAN CITY. Please give a brief description of your department, the type of work you wish to assign to the men, and the wages to be paid. This is an opportunity to augment your staff with capable men and to help in a practical way to maintain healthy Chinese-American relations after the war.

It Cleans

MANY cleaning compounds have been evolved to make life simpler, for probably there is no omnipresent form of drudgery more onerous than getting things clean. A new degreasing solvent is now available which sprayed or wiped on machinery, or even concrete garage floors, converts oil and grease into a soluable film which rinses off, leaving the surface clean. It is said to be particularly effective. Any one interested, may obtain the name of this product from THE AMERICAN CITY, 470 Fourth Avenue, New York 16, N. Y.

for outstanding performance

. . . on the Production Front

The Army-Navy "E" flag, signifying exceptional performance in the production of war materials, now flies over two of the Chicago Bridge & Iron Company's shipyards. Over 11,000 of our employees are privileged to wear the "E" pin in proud tribute to their war production efforts.

It's been said that this is the age of production miracles. But is it? To those who *really* know American industry, today's staggering production figures cause no surprise.

The foundations for these so-called production miracles were laid years and generations *before* Pearl Harbor. The needs of war have brought to light the vast amount of "know how" that industry has accumulated through years of research and experimentation. This knowledge of how to accomplish things *fast* and *well*, is enabling our nation to mete out the potent weapons of war at a rate that augurs disaster for our enemies.

The Chicago Bridge & Iron Company is proud to serve the war effort both directly and indirectly. In addition to the increasing number of ships and floating dry docks being launched from our yards, our plants are designing and fabricating Hortonspheres, Hortonspheroids, tanks and pressure vessels of all descriptions for the petroleum industry, the synthetic rubber program and other vital phases of our country's vast war production.

CHICAGO BRIDGE & IRON COMPANY

NEW YORK • CHICAGO • TULSA
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Water-Works Operation

PHOTO COURTESY OF THE U. S. PIPER

Philadelphia adds new cast iron mains to its distribution system.

Philadelphia Strengthens Its Water-Works Gridiron

ALTHOUGH the work of thoroughly rehabilitating Philadelphia's water-works system has received serious delay because of the war, nevertheless, two important steps have now been completed.

One project required 4,100 feet of 12-inch Super-deLavaud centrifugal cast iron pipe, laid in the University of Pennsylvania section west of Philadelphia, to reinforce the gridiron system in that area. The second project included 20,000 feet of 16-inch cast iron pipe, laid in the northeast section of the city, to serve as a supplemental feeder in that area.

Iron and Manganese Removal

RESEARCH studies completed recently by Capt. Edward W. Moore, formerly professor in the Harvard Graduate School of Engineering, and Ernest A. Snow, Senior Chemist in charge of the Western Sanitary District Laboratory, Massachusetts Department of Public Health, indicate new and economical means of rapidly and effectively removing both iron and manganese from water. Laboratory studies using waters in the Massachusetts area showed definite advantages in the use of a sludge composed of ferric and manganic hydrates in removing these undesirable chemicals.

The studies disclosed very definite characteristics in this process. The action of the sludge is rapid and does not require more than 15 to 30 minutes to be complete. It operates best at a pH value of 7.0 to 9.0 for iron removal, and from 8.5 to 10.0 for manganese. The sludges do not lose activity by storage or continued use, and concentrations of 600 to 700 ppm of dry suspended solids appear to be sufficient to perform the removal work.

Controlling Algae and Pipe Corrosion

L. A. JACKSON, Manager of the Little Rock Municipal Water Works, is gradually beating two tough problems of water supply. The first of these is the control of corrosion in the distribution system, and the second is algae in one of his important 39-inch supply mains.

Mr. Jackson is counting heavily on the use of Calgon to beat the corrosion problem. The Calgon dosage is one ppm applied to the filtered water by Omega proportioning feed equipment. This has practically eliminated "red water" in the distribution system. He reports that in some instances the Calgon dosage was increased to relieve "red water" complaints in hot water systems by the use of Micromet in the individual hot water tanks. These complaints occurred most frequently at the approach of the winter season.

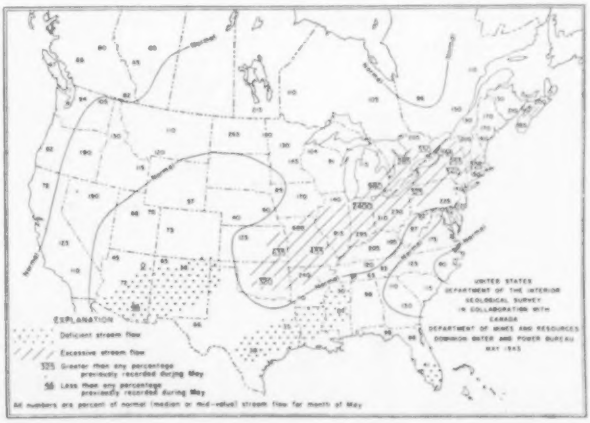
Breakpoint chlorination has been used to control the algae in the 39-inch main. Chlorine dosage is now 1.97 ppm. or slightly above the breakpoint.

Water Resources—May

THE damaging floods extending throughout the midwest showed their true strength during the month of May. Although direct loss of life was small, property damage was great. The U. S. Department of the Interior places this as one of our great catastrophes.

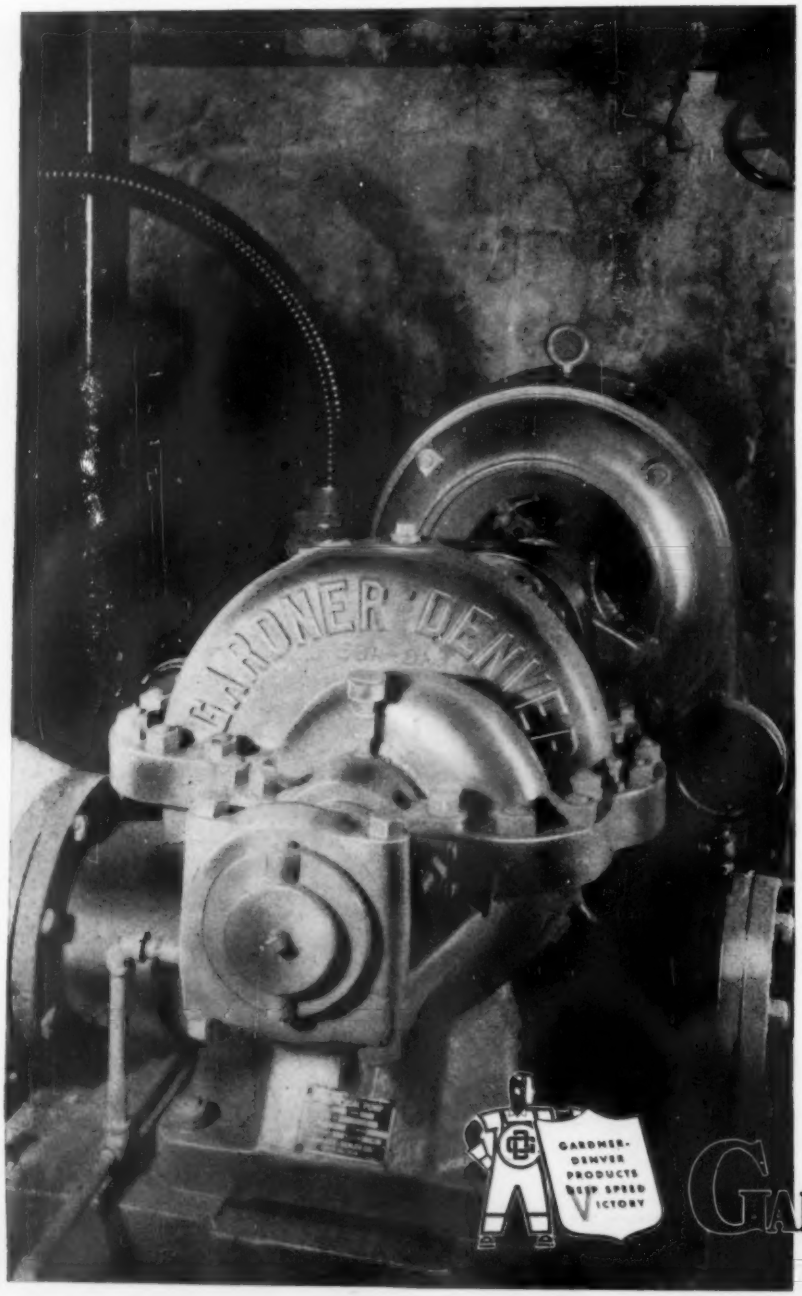
Rainfall between May 5 to 22 exceeded six inches over 200,000 square miles, 10 inches over about 100,000, and 15 inches over about 17,000. In most areas the precipitation fell in two general periods, the first from May 5 to 12, and the second from May 15 to 20.

Less spectacular, but none the less significant, was the growing indication of drought in the southwest, particularly in Arizona, New Mexico, and parts of Texas.



Notice the power of the flood as it crosses the state of Indiana.

"... and We'll Replace Those with Gardner-Denver Centrifugals"



Every day an old pump operates represents a loss of efficiency—a waste of power. To overcome such waste, many water plant operators are planning right now to replace their obsolete pumps with truly modern centrifugals designed by Gardner-Denver.

User reports show that the improved hydraulic and mechanical advantages of Gardner-Denver pumps are helping to establish remarkable records for high efficiency and lower cost service in many modern pumping stations.

Send for a bulletin giving up-to-date information on Gardner-Denver Horizontally Split Case, Double-Suction Centrifugal Pumps—and learn the facts behind their ability to lower the cost per 1000 gallons pumped. Address Gardner-Denver Company, Quincy, Illinois.

Ruggedly constructed for heavy duty service—Gardner-Denver Horizontally Split Case, Double-Suction Pumps. Large, smooth waterways prevent eddies and cross currents. Horizontally split casings permit easy access to rotating element without disturbing pipe connections.

GARDNER-DENVER

Since 1859

Sewerage and Sewage Treatment

San Francisco supplies sewerage facilities without critical material by installing a 5-foot brick sewer.

All Brick Sewer

THE city and county of San Francisco are cooperating in the war effort by using "non-critical" materials in the construction of sewers.

A section of a main trunk sewer in Jackson Street—length of the sewer is 300 feet—between Sansome Street and Battery Street has been completed. This work includes a 5-foot diameter, 3-ring, common brick sewer built on a class "D" plain concrete cradle. A 12-inch vitrified clay pipe sub-drain imbedded in crushed rock was constructed under the sewer. The cast iron and cast steel fittings for the manholes were furnished the contractor from the city's maintenance yard. Contract price was $39,610.

The new sewer replaces a 4- x 6-foot brick sewer built in 1870; incidentally, this is the first all brick sewer constructed in San Francisco in 43 years.

JOHN J. CASEY,
City Engineer.

The Effect of Kitchen Garbage Grinders

LAKE FOREST, ILL., is studying plans to relax its regulations over the use of household garbage grinders, according to Neil N. Campbell, city engineer. At present the city requires the use of a separate catch basin at each residence, but is considering waiving this requirement and allowing the ground garbage to be discharged directly into the sewers.

"Lake Forest has a system of separate sewers," Mr. Campbell states, "and we have felt that the discharge of ground garbage into them might result in an excess accumulation of sewer gases in the mains, as well as other complications."

He reports that the use of a kitchen catch basin is not satisfactory because the accumulation of sludge has been rapid, requiring frequent cleaning. He states also that there has been a rapid formation of gas having an offensive odor, resulting occasionally in explosions.

The use of the grinders is not extensive, he states; however, he anticipates their increased use after the war when they again become available. At present, the greater portion of the garbage is collected throughout the city and disposed of by incineration.

Sewerage Extensions at Paris, Texas

THE extensions to the city's sewerage system are stepping along at Paris, Texas, as the result of the recent project covering pumping stations and laterals.

The project includes two lift stations, one with a capacity of 250 gallons per minute, raising the sewage 25 feet; and a second with a capacity of 150 gallons per minute, with a 20 feet lift. These stations, together with interceptor lines and laterals, serve the northwest portion of the city. Total construction costs will amount to $47,000.

Our Guest Editorial on Facing Shortages

THESE are times when we on the home front must do more and more with less and less, in order that the armed forces of the United Nations will have all the war material necessary to wage an aggressive, successful campaign against our Axis foes.

Certainly, shortages and rationing have caused considerable inconvenience. Yes, there have been some who have raised their voices in objection. However, further analysis of those who have raised dissenting voices reveals that they are not objecting to the fundamental principle of rationing, but merely to some of the mechanics of its operation.

No true American would object to the idea that our military obligations must be met first and civilian needs provided for from the remainder. If the reasons for rationing are clearly understood, objections soon vanish into thin air. Rationing in time of war is a democratic process. It is a positive, not a negative, measure. Reduced to simple terms, it means the equal distribution of the available (but less than normal) supply to each and every citizen. It should not be considered negatively as a matter of being deprived of something: to share is to serve.

No liberty loving citizen of this country could raise a valid complaint at the idea of walking or riding in a public conveyance, rather than driving his own car, if he knew the gasoline saved might be used in a fighter or bomber that would hasten the defeat of the Axis. If our allies sorely need oils and fats to furnish energy to the military and supporting civilian population, where is there an American who would not gladly spread his butter half as thick to make this possible?

Operators of water, gas, and sewerage systems in this country have been faced with the problem of meeting demands for service far in excess of normal, with available materials and supplies far below normal. Priorities and allocations, rationing in principle, have regulated the use of many critical materials used by these utilities. Fundamentally, it has been a matter of distributing the available supply equitably to those projects in the relative order of their importance to the war effort and public health.

In general, it would be reasonably safe to say that these utilities have been able to get sufficient materials to do the absolutely essential things. Perhaps some substitution of materials was required and some refinements were omitted; however in the emergency, these utilities have come through with flying colors. To the engineers and operating personnel of these utilities, we extend our congratulations for a job well done.

JULIAN B. MCFARLAND, Editor,
The U. S. Piper, Burlington, N. J.

BULLET-SHAPED . . . *but not a projectile*

SUSPENDED in mid-air, this projectile-like object (22" dia. x 8 ft. long) is a steel forging to help "pin" the bridge together. Assembling heavy steel members into bridge structures is a typical use of hoisting power made conveniently available through heavy-duty gasoline or Diesel engines.

To assure peak performance not only of hoisting machinery, but of trucks, tractors, bulldozers, etc., contractors everywhere are lubricating their heavy-duty gasoline and Diesel engines with Texaco.

Texaco Ursa Oil X★★ has both detergency and dispersion. Detergency keeps piston rings free and engine parts clean. Dispersion holds deposit-forming materials in suspension until drained at oil-change time. The use of this oil prevents scuffing of rings, pistons, cylinders . . . protects alloy bearings.

For quieter-running, longer-lasting transmission and differential gears, use *Texaco Thuban.*

So effective have Texaco lubricants proved that they are definitely preferred in many important fields, a few of which are listed in the panel.

A Texaco Lubrication Engineer will gladly cooperate in the selection of the most suitable lubricants for your equipment. Just phone the nearest of more than 2300 Texaco distributing points in the 48 States, or write:

☆ ☆ ☆

The Texas Company, 135 East 42nd Street, New York, N. Y.

THEY PREFER TEXACO

★ More buses, more bus lines and more bus-miles are lubricated and fueled with Texaco than with any other brand.

★ More stationary Diesel horsepower in the U. S. is lubricated with Texaco than with any other brand.

★ More Diesel horsepower on streamlined trains in the U. S. is lubricated with Texaco than with all other brands combined.

★ More locomotives and railroad cars in the U. S. are lubricated with Texaco than with any other brand.

★ More revenue airline miles in the U. S. are flown with Texaco than with any other brand.

TEXACO

TEXACO Lubricants and Fuels

FOR ALL CONTRACTORS' EQUIPMENT

TUNE IN THE TEXACO STAR THEATRE EVERY SUNDAY NIGHT — CBS ★ HELP WIN THE WAR BY RETURNING EMPTY DRUMS PROMPTLY

Refuse Collection and Disposal

What a Price Ceiling Did to Vancouver's Garbage

THE garbage collection service at Vancouver, Wash., caught between the high wage scales of the shipbuilding industry and the ramifications of OPA price ceilings, has had an unhappy life the past year.

Difficulties arose because of a proposed raise in rates that the city granted to meet higher wages asked by the employees. The rate increase went from 50 cents to 75 cents per month. A private contractor collects the garbage and bills the customers according to the scale set by the city.

This raise, authorized by the city last June, made it possible to raise wages of $95 per month to $135, later to $175, and by October to $190 per month. The raises, incidentally, were not to block a strike threat, but simply were to keep labor from going to the shipyards.

Everything was working smoothly when, last October, the city and the contractor learned to their surprise that they had been violating an OPA price ceiling. Government officials state that under present Federal laws the city had no right to grant a raise in garbage collection rates without Federal sanction. Furthermore, before any adjustment could be considered, the past violations would have to be cleared. This forced the contractor to abandon the new garbage collection rates and return to his previous scale.

As a result, experienced men quit to work in the better-paying shipyards, collection schedules became disrupted, and as Mayor John A. Hogg states, the garbage piled up, rotted, and stunk.

On October 26, OPA granted a 10 per cent increase as the maximum allowed under existing price regulations, but this was virtually without effect. Finally, after earnest arguments in behalf of the city by the Washington State Health Department, the Governor, congressman and city officials, OPA reinstated the former rate, and the garbage contractor began to hire new, untrained men, and slowly built up a new crew.

"Fortunately this 'crisis in a garbage pail,' passed without mishap," states Mayor Hogg. "However, it might have been the cause of a bad public health problem that could have had serious effects on our vitally needed war work. A city like our own, having the responsibility of caring for as important an industry as shipbuilding, has enough troubles without having its life complicated by garbage collection price ceilings."

War-Induced Problems in Refuse Collection

THREE important problems have confronted Dayton, Ohio, to complicate its refuse collection program. The first is the rubber shortage. In order to lengthen the life of tires used at the city dump, officials have adopted the policy of covering the frontal edge with a layer of clean gravel.

The second is a scarcity of suitable places for dumps. Expansion of the city has caused the locations to be fewer and farther apart, thus necessitating longer hauls.

The third has been the increase in population. This has not only thrown an added burden on the department, but has also meant the training of these new inhabitants in the routine that the city uses to collect garbage and refuse.

Collection of refuse is made once every 28 days with a fleet of 12 trucks and 30 employees including drivers. This fleet is augmented during the winter by two Gar Wood Packers to take care of ashes. Refuse is picked up at the alley line of properties having alleys and from the curb of all other properties.

Refuse Collection Trends

SIGNIFICANT trends in the quantities of garbage and other refuse, noted in Philadelphia, disclose present wartime conditions. A substantial decrease in the amount of garbage collected in the city indicates that householders are utilizing food more carefully and are reducing waste. A marked increase in the amount of ashes and rubbish is attributed both to a considerable increase in population and also to the increased use of coal for heat, brought about by action to conserve fuel oil in line with rationing restrictions.

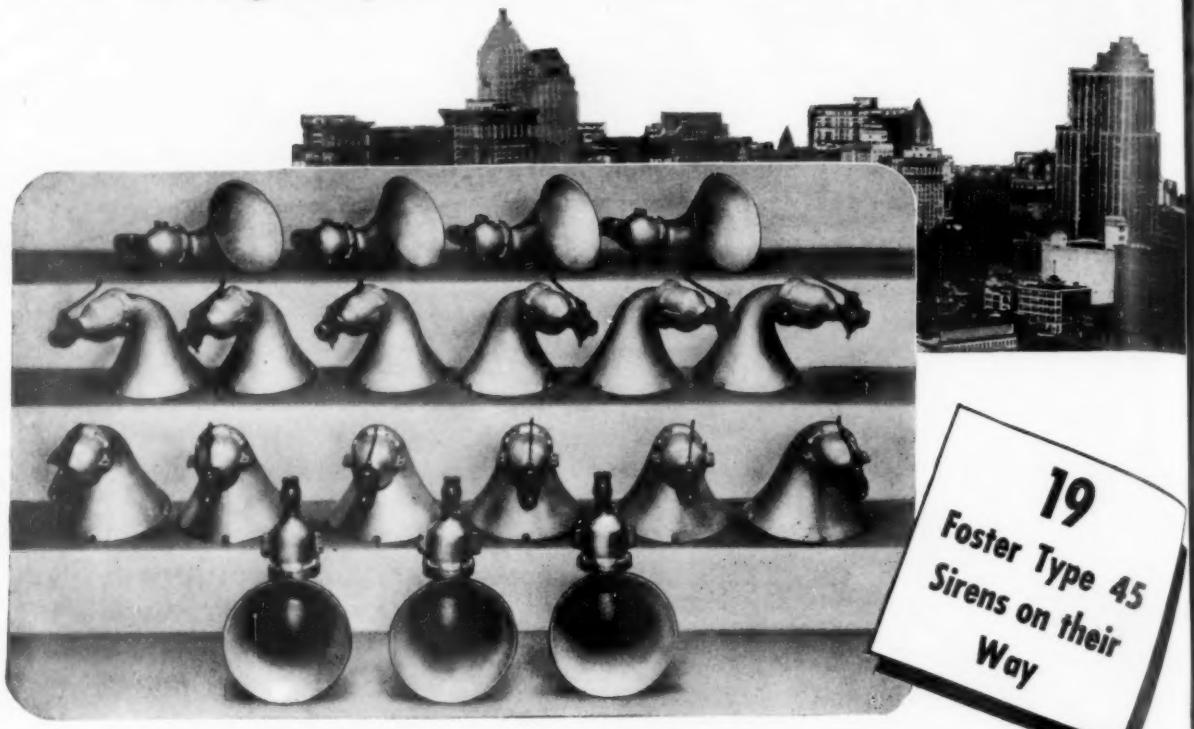
Philadelphia's Bureau of Municipal Research reports that the decrease in garbage has helped very little in the collection of the larger quantity of ashes and rubbish. Much of the garbage equipment is unsuitable for hauling ashes and rubbish, and the capacity of the equipment that might be used for such work is insignificant in comparison with the needs. Freezing of equipment by the Federal Government prevented the city from acquiring new ash and rubbish trucks which had been ordered, and the city, therefore, diverted highway trucks for the work. Hired trucks have also been used, the Bureau states, although it is pointed out that this is not the most economical way to collect garbage and refuse.

Garbage and Refuse Collection Data

	Pounds per capita per day				Weight per cubic yard		Collection cost per ton dollars		Collection cost per cu. yd. dollars	
	summer		winter							
	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.
Garbage Food waste from kitchen and market	0.30	2.3	0.2	1.2	800	1500	1.00	8.92	0.61	1.37
Rubbish Paper, wood, bedding, metal, glass, dirt, etc.	0.60	1.8	0.4	1.1	100	700	1.00	14.00	...	...
Ashes	0.12	0.2	1.9	3.2	1150	1400	...	...	...	...
Street refuse Sweepings, dirt, leaves, etc.	0.5	1.5	0.5	2.0	800	1400	...	...	...	...
Garbage and combustible rubbish combined	0.7	3.9	0.3	1.8	200	800	1.00	8.83	0.62	1.22
Ashes and noncombustible rubbish combined	0.1	1.1	0.60	5.0	750	1165	0.67	2.52	0.49	0.93
All refuse combined	1.2	3.4	2.1	5.5	500	1000	1.00	5.00	0.25	1.53

Data from the bulletin, "Recommended Wartime Refuse Disposal Practice," issued by the U. S. Public Health Service, Washington, D. C. The bulletin lays particular emphasis on the land-fill method of disposal for mixed refuse.

Here's *PROOF* that this Mid-West City's Warning System Will Be Adequate!



And these are no ordinary sirens—by impartial tests and in actual service, they have been found to have what it takes:

- **Audibility**—125 to 130 decibels at 100 ft. for Type 45—high enough to overcome a street level of 70 or 80 decibels with plenty to spare.
- **Adaptability** — Sharp sound cut-off permits coded signalling service. For operation on steam—or air, if a supply of approximately 1500 cubic feet per minute is available.
- **Availability**—Fewer critical materials are used in manufacture, therefore quick delivery can be made on lower priority.
- **Low Cost** — Comparative tests* show Foster Sirens lowest in cost per square mile covered over *any other* siren manufactured. Simple to install, and low in operating and maintenance costs thereafter.

*Test data furnished on request.

If you are looking for ways to bring your warning system to full efficiency, quickly and with the least possible expenditure, we can help. We have assisted many other cities in the solution of their problems, and with the proper survey data on your area, we can help you to plot your installations for maximum coverage. Our experience is yours for the asking—without obligation.

A fully descriptive and illustrated bulletin is available on request. Simply ask for Bulletin 29.

FOSTER ENGINEERING Company

PRESSURE REGULATORS...RELIEF AND BACK PRESSURE VALVES...AUTOMATIC STOP AND CHECK VALVES...ALTITUDE VALVES...DAMPER REGULATORS...FAN ENGINE REGULATORS...PUMP GOVERNORS...TEMPERATURE REGULATORS...LIQUID LEVEL CONTROLLERS...FLOAT AND LEVER BALANCED VALVES...NON-RETURN AND TRIPLE DUTY VALVES...VACUUM REGULATORS OR BREAKERS...SIGHT FLOW BOXES...STRAINERS...SAFETY VALVES...SIRENS

133 MONROE STREET • NEWARK, N. J.

Does Your Air Raid Signal System Cover All Your People?

THE first necessity of an air raid signal system, is that it be heard and instantly recognized by all persons within the city limits. This requirement is by no means generally attained among the hundreds of cities having such signals.

It is not impossible that one reason for the failure is a desire to avoid annoyance. A loud steam siren alongside a hospital, for instance, seems entirely out of place. On the other hand, if there were an air raid, the sound of the siren would be the least element of the disturbance—and the most important element of the entire control system.

It must be recognized that the warning is about the only act which the city government can perform for the people in advance of the attack. This warning, therefore, must be positive.

Correct procedure seems to indicate the installation of steam sirens and air-operated sirens wherever steam and air are available 24 hours a day. Between, and among, the steam and air sirens—and everywhere in cities having inadequate steam and air resources—electric sirens should be installed.

If the loud sirens were blown only before actual air raids, they might create no nuisance, or sound, at all—for they might never be operated. Should there be an actual air raid, a sturdy uncompromising warning is exactly what is wanted. The "nuisance" phase rests entirely on the possibility that there may be no real raids, but that there will undoubtedly be numerous tests.

Scores of city officials have asked THE AMERICAN CITY and THE MUNICIPAL INDEX to furnish adequate information on available air raid sirens. It, therefore, seems obvious that this problem of proper equipment has not been solved. Avoiding a nuisance by selecting inadequate signals, will never solve it. The only solution is to install sirens which do their stuff infallibly; and then exercise them only enough to keep them—and the people—in condition.

Three Steam Whistles Warn Entire Town

A COMMITTEE appointed by the Nutley Defense Council investigated various systems of air raid alarms and obtained proposals from several companies. The committee finally decided to purchase the equipment made by the Foster Engineering Co., Newark, N. J.

These whistles, or sirens, are 4½-inch rotor, semi-steel horns with a bronze whistle valve and operate under 75 pounds steam pressure. Three of our leading industrial plants, located on the outskirts of three different sections of Nutley, N. J., agreed to furnish an adequate supply of steam 24 hours a day, 7 days a week, without charge. The equipment was installed at these factories.

Telephone relay equipment makes the siren alarms automatic. In case of an air raid alarm or test, the police department can, by making a telephone connection, automatically blow the three aid raid alarm whistles simultaneously. This circuit is tested twice weekly by the telephone company. There is also a direct line telephone from the police department to the boiler rooms of the factories, so that in the event of some unforeseen failure in the automatic operation of the alarms, the fireman on duty can operate the sirens manually.

The Foster Engineering Company guaranteed complete local coverage through the installation of their system, and this claim has been substantiated, not only during State and Army air raid tests, but also at the Saturday noontime tests. On Saturdays the whistles are audible throughout the entire town, although they are blown for only one half the customary period so that the work in the factories need not be disrupted. The height and direction of the horns were carefully calculated. They are directed toward the two valleys which run through Nutley, and the sound then reverberates to the hills, making coverage complete for our poulation of 21,954.

DUDLEY R. SHEPARD,
Commander, Defense Council,
Nutley, N. J.

This new protective system developed by Photoswitch, Inc., Cambridge, Mass., has a quarter mile range.

What Will Detroit's New Transit Be?

IT HAS long been recognized that local transportation has exerted a tremendous influence on the development of cities; and in turn, we believe that the desirable future development of the city along predetermined lines, in accordance with a sound Master Plan, must ultize transportation as an effective instrument in realizing such a plan.

In the current preparation of a Master Plan for the city of Detroit, one of the major elements is general plans for transportation facilities, including mass and rapid transit. Our present work involves preliminary studies relating to land use and the major street and highway system. We have not as yet begun a serious study of the transportation problem except appraisal of the present system.

I have no preconceived ideas as to what form the future mass-transportation system of Detroit ought to take, although I am skeptical of the practicality of subways in the past. The land use pattern of the future, involving the location and distribution of centers of social and economic activity, will, to a large extent, indicate the general form and shape of the transportation system which will be required to serve the people moving between these points.

In Detroit the local transportation system is operating as a department of the city government. We have already discussed, in a preliminary way, some of these matters with the General Manager of the system, and when the time comes to begin intensive work on this phase of the Plan, it is expected to be done in close collaboration with that department.

I am not certain as to how far our Plan should go in determining the details of the system—particularly as to the choice between trolley coaches and self-propelled buses. These questions must be considered in the development of a transportation plan, and the solution will depend upon what appears to be the most economical and practicable from all angles.

We are much interested in the work which THE AMERICAN CITY is doing to gather and disseminate information of value to city officials in the solution of their local problems.

GEORGE F. EMERY,
City Planner,
Detroit, Michigan.

WHAT DOES THE W.P.B.* ORDER RESERVING "PRESTONE" ANTI-FREEZE FOR MUNICIPAL EQUIPMENT MEAN TO YOU?

* War Production Board Limitation Order L-51 as amended permits dealers to install ethylene glycol base anti-freeze in commercial vehicles. If the purchaser takes the anti-freeze away, he must sign a certification in substantially the following form:

The undersigned purchaser hereby certifies that the anti-freeze hereby ordered (manufactured from or containing ethylene glycol) will not be used in, or disposed of for use in, any passenger automobile as defined in War Production Board Order L-51.

SAVES CRITICAL EQUIPMENT!

With "boil away" alcohol frequent checks on the anti-freeze strength are necessary—often by inexperienced help. Accidental freeze-ups could result in ruined equipment. "Prestone" anti-freeze contains no "boil away" alcohol.

SAME PRODUCT AS ALWAYS

SAME AS LAST YEAR
O. P. A. Retail Ceiling Price
$2.65 per gallon

BETTER NOT WAIT TO GET YOURS!

Supplies are unpredictable in wartime. To be sure of this vital protection, get your next winter's "Prestone" anti-freeze now!

CAN'T EVAPORATE OR BOIL AWAY
PROTECTS AGAINST RUST AND CORROSION
ONE SHOT LASTS ALL WINTER—YOU'RE SAFE AND YOU KNOW IT!

The words "Eveready" and "Prestone" are registered trade marks of National Carbon Company, Inc.
Unit of Union Carbide and Carbon Corporation

UCC

PRESTONE ANTI-FREEZE

TRADE-MARK

BUY WAR BONDS AND STAMPS

Keep Up-to-Date on New Equipment

Please check over the following list of interesting catalogs obtainable free of charge and either write direct to the manufacturers for their literature, or, if you prefer, put a circle around the identifying numbers below to indicate the catalogs you want, mail this coupon to The American City Magazine, 470 Fourth Ave., New York, and we will see that the catalogs are sent to you without expense or obligation on your part.

7/43

701	702	703	704	705	706	707	708	709
710	711	712	713	714	715	716	717	718
719	720	721	722	723	724	725	726	727
	728	729	730	731	732	733	734	735

Name ..... Position .....

Address .....

Flame Traps to Control Sewage Gas Explosions

701. Is your sewage-treatment plant thoroughly protected against the danger of sewage digester gas explosion? You can get full information on this type of protection from catalog S-3, published by the Vapor Recovery Systems describing their VAREC equipment. Write to The Vapor Recovery Systems Co., 2820 North Alameda St., Compton, Calif.

Detecting Underground Leaks

702. Globe Phone Mfg. Corp., Dept. H, Reading, Mass., will furnish you data on their Geophone. This instrument will find a place in your maintenance department for detecting underground leaks of water or steam.

Parking Meters

703. Mi-Co Meter Co., Division of The Michaels Art Bronze Co., Inc., 231-239 Court St., Covington, Ky., will furnish you with an illustrated folder on their Mi-Co parking meters. This literature discusses in detail all the features of the meter and gives figures on the maintenance savings it affords. The meter comes in five models to fit all community needs.

Designers, Fabricators, Erectors

704. You may secure from the Pittsburgh-Des Moines Steel Co., 3412 Neville Island, Pittsburgh, Pa., well-known manufacturer of water towers, tanks, structural and reinforcing steel, and incinerators, an interetsing catalog giving an overall picture of the important work this company has been doing to serve both municipal and industrial organizations. Not prepared as a technical bulletin, it nevertheless gives a clear insight into advanced practice in these fields.

Microfilming City Records

705. Before the war a number of cities had photographed their historical, vital, tax, and engineering records on small film strips capable of enlargement and reduplication when needed. It is now possible to have this work performed by a commercial agency without having to purchase any camera equipment. Get the facts from Microstat Corporation, 18 West 48th Street, New York, N. Y.

Water Meters

706. An important feature of the Hersey iron case water meters is the magni-vision all glass bonnet which gives greater illumination of the face and more accurate reading. Hersey Mfg. Co., South Boston, Mass., will send you a special circular on request.

Increasing Pipe Carrying Capacity

707. The Centriline Corporation, 140 Cedar St., New York will be glad to furnish you with data on their method of restoring and protecting the carrying capacity of your pipeline. This consists of cleaning the main and then applying a lining of thin, dense cement which makes a permanent smooth, non-tuberculating, non-corrosive lining. Write for full details.

Valves and Hydrants

708. Descriptive literature will be furnished by the Eddy Valve Co., Waterford, N. Y., on the high grade valves and hydrants they have been supplying to cities for many years.

Dump Bodies

709. If you want the latest information on dump bodies write The Heil Co., Milwaukee, Wis. This company has published a catalog containing a series of pamphlets on dump and hoist bodies of all types, giving descriptions, specifications and prices. When writing be sure and specify for what purpose you desire information.

New Chemical Feed Pump

710. You will want to receive the information Proportioneers, Inc., 99 Codding St., Providence, R. I., will furnish describing their new heavy duty Chem-O-Feeder. This pump has been designed to incorporate the suggestions of more than a thousand water-works men and was intended to eliminate every possible shortcoming that could be attributed to this type of equipment. It embodies features such as continuous feed, with the rate adjustable while the pump is operated, and long life under rugged conditions.

Boiler Feed Pumps

711. Bulletin No. 42-4500 of the Byron Jackson Co., Box 2017, Terminal Annex, Los Angeles, Calif., describes in brief detail the features of their double case boiler feed pumps. You will find discussed here the basic principle of design, the application of double case boiler feed pumps and other engineering details.

New Photocopy Machine

712. City officials faced with a shortage of help in their departments, will find the APeCo photocopy machine of great assistance in releasing men from detailed copy work. It will reproduce one to 100 or more copies of anything written, printed, drawn, or photographed. This work can be done by inexperenced help in the shortest possible time; the first copy is produced in three minutes and 120 are run off in an hour. Write American Photocopy Equipment Co., 2849 N. Clark St., Dept. EB1, Chicago, Ill., for the folder describing its equipment.

How to Locate Buried Pipe

713. An interesting little booklet is available from Fisher Research Laboratory, 1961-1965 University Ave., Palo Alto, Calif. This literature explains the abilities of this equipment to locate the exact position, center, and depth of buried pipe lines or valves, dead ends, covered manholes, cast-iron joints and similar material; tells how it can trace underground lines without contacting the line itself; and distinguishes between a buried pipe and a single metal object.

Wellpoint Systems

714. An interesting 60-page catalog is available from Griffin Wellpoint Corp., 881 E. 141st St., New York, entitled "Griffin Pointed Wellpoint Facts." This catalog covers the installations and workings of wellpoint systems for dewatering, emergency and permanent water supply systems, and also discusses their lines of jetting pumps.

Rubber-Like Hot Poured Joint

715. Servicised Products Corporation will furnish you with data on their new compound, Para-Plastic—a substitute for the former Hot Poured Rubber Sealing Waterproof compound. This product, manufactured of non-critical material contains all the properties of the former product; it bonds firmly with concrete, steel, or wood; and acts as a sealer against water. Write Servicised Products Corp., 6051 W. 65th St., Chicago, Ill., for information on this Para-Plastic.

Iron and Carbon Dioxide Removal

716. Bulletin No. 252, issued by The American Well Works, Aurora, Ill., will be of interest to water-works officials. This catalog contains a discussion of the action of the troublesome problem of iron and carbon dioxide in your water, and of the Ferrofilter operation which effectively and completely removes these properties from a water supply. You will find a complete description of the workings of this filter operation, including a diagram of the equipment, charts of operating results, and specifications.

(Continued on page 18)

THE CHEMICAL BASIS FOR IRON-CASE WATER METERS

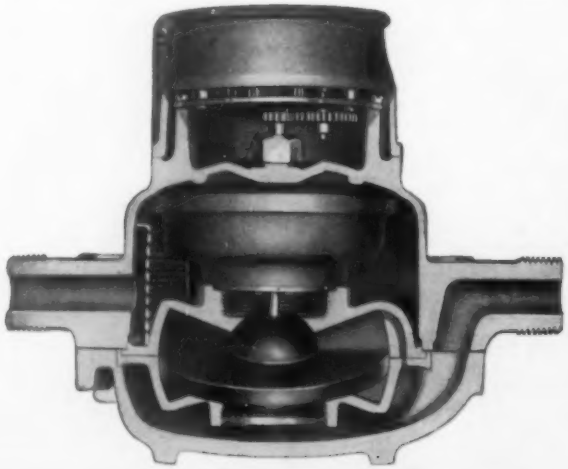
In water containing bicarbonate hardness, a water meter having cast iron casing with bronze works may give longer life than an all-bronze meter. This is partly because iron ranks ahead of copper in the electromotive force series of chemical elements, so deposits of mineral salts and corrosion are attracted harmlessly toward the iron. The bronze works are thus left relatively free from corrosion or scale for many extra years.

The reaction of such water also aids in preserving the hot-dip-galvanizing on the Niagara Meter iron casing. Niagara design does not permit bare iron to be exposed to the water.

When metering water that is relatively soft, or has low pH, iron case meters may need casings changed to bronze after the war. This can be done so simply that there is no need to postpone meter installations on this account.

BUFFALO METER COMPANY

2902 Main St. **Buffalo, N. Y.**



WHICH OF THE CATALOGS WOULD YOU LIKE?

(Continued from page 17)

New Filter for Sewage Treatment

717. Bulletin 110, entitled "The Clari-Filter," announces a new type of contact filter furnished by the Lakeside Engineering Corp., Chicago, Ill. This filter is composed of a contact filter and a clarifier constructed together. A minimum of contact service and air are required by reason of the excellent distribution of the sewage throughout the contact section. The bulletin gives complete drawings on the way this unit is used as well as descriptions of its special features.

Use and Care of Fire Extinguishers

718. The American-LaFrance-Foamite Corporation has published a new booklet, "Maintenance of First Aid Fire-Fighting Equipment" to help you in the care and use of your fire extinguishers and engines under wartime conditions. This booklet discusses classes of fires, extinguisher and engine characteristics, methods of operation, and emphasizes periodic practice handling and discharging the units under would be fire conditions. Write American-LaFrance-Foamite Corp., Elmira, N. Y., for a free copy of this booklet.

Centrifugal Blowers and Exhausters

719. Roots-Connersville Blower Corp., Connersville, Ind., has just issued bulletin 120-B-12 covering its centrifugal blowers and exhausters. This interesting pamphlet lists the many applications for these single and multi-stage units in all sizes, discusses the advantages of the centrifugal design, gives operating data, discusses various control devices, and shows action views of various manufacturing and testing operations.

Multi-Stage Flocculation

720. Operators of water or sewage-treatment plants will be interested in the new bulletin No. 389 issued by the Chain Belt Co., 1600 West Bruce St., Milwaukee, Wis., describing its improved and outstandingly successful Rex Slo-Mixers. This equipment provides optimum turbulence for maximum floc formation. By decreasing the turbulence as the floc size increases, this maximum floc is preserved until the settling basin is reached. The bulletin contains several well illustrated examples of this type of application.

A New Improved Hydrated Lime

721. An interesting little bulletin furnished by the Limestone Products Corporation of America, Newton, N. J., describes the Lime Crest Calcite Superior Hydrated Lime. This lime takes advantage of reportedly superior characteristics of the limestone in that area that result in better operation wherever lime is required. Less sediment is accumulated and a larger floc is made possible when this type of lime is used, the bulletin states.

Pumps, Fire Hydrants, and Gate Valves

722. You can obtain bulletins on all three of these important features of a water works system by writing to the Manistee Iron Works Co., Manistee, Mich. The single-stage, double-suction pumps vary from 75 to 20,000 gpm capacity, while the multi-stage pumps vary from 50 to 3,500 gpm. with heads up to 1,600 feet.

Wire Rope

723. In studying places where the use of wire rope is essential to the operation of municipal services you will find the booklet "Helping Speed Construction," prepared by the Hazard Insulated Wire Works, Division of The Okonite Co., Wilkes-Barre, Pa., extremely useful. It gives practical information on the advantages of preformed wire cable, gives recommendations for its use, and hints on its maintenance in order to prolong its life.

Tractor Maintenance

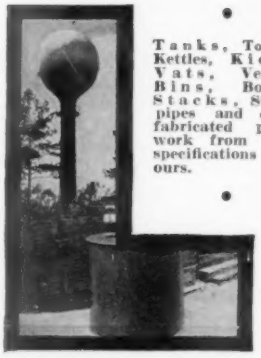
724. The Allis-Chalmers Tractor Division, Milwaukee, Wis., has geared its service to wartime conditions, and is ready to furnish you detailed information on pertinent subjects that will not only help you keep your existing equipment operating, but will assist you in obtaining additional equipment if the need arises. Their service covers such subjects as obtaining parts, exchanging equipment, rebuilding facilities, repair and maintenance, obtaining rebuilt equipment, and rentals.

Fibre Pipe

725. Catalog No. 302 issued by The Fibre Conduit Co., 292 Madison Ave., New York, will give you the full details on the Orangeburg fibre pipe. It describes the construction of the pipe, its general properties and characteristics, shows you how to use it, and how easily tight joints are made. Also you will find a general discussion of topics pertaining to Orangeburg fibre pipe—such as joining to soil pipe and the compounds to use, and joining to threaded pipe.

(Continued on page 20)

Tank Builders For Over 80 Years!



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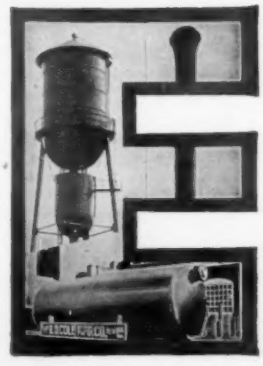

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Water shut-offs mean industrial shut-downs, and this in turn impedes the war effort. A valve insertion job does not necessarily mean that you have to shut down service. With a Smith Valve Inserting Machine you can insert valves with the service at full pressure. These machines are made in 6 sizes for inserting 4" to 36" valves, are simple and easy to operate and do a surprisingly quick, clean job.

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WHICH OF THE CATALOGS WOULD YOU LIKE?

(Continued from page 18)

Sanitary Packing for Mains and Pipe

726. Fibrex, a sanitary paper packing, treated with a water repellent to prevent it from breeding bacteria, is the subject of an interesting booklet issued by the Hydraulic Development Corp., 50 Church St., New York. You will find a discussion of this packing for jointing bell and spigot pipe for water mains, sewer mains, and soil pipe; a graph comparing Fibrex and braided jute both in sterile water, listing of the various sizes; and a chart showing pounds of Fibrex per joint to be used.

Making Wood Less Combustible

727. Underwriters' Laboratories, Inc., has completed tests of the new fire retardant, Firepel-S, and approved it for use on red oak and white pine. Taking the uncoated wood as 100 in each case, the flame spread on the coated wood is 65, the fuel contribution is 40, and the smoke generated is 15. A folder giving the results of the test and the facts about Firepel-S may be obtained from the Albi Firepel Corporation, 9 Park Place, New York, N. Y.

Street Lighting Standards

728. Part of your post-war planning should be to provide for adequate and modern street-lighting facilities. To help you study this problem, The Union Metal Mfg. Co., Canton, Ohio, offers not only literature but the assistance of its engineers in drawing up plans and making layouts.

Machine for Lettering Drawings and Charts

729. Hand lettering of maps, piping and conduit plans, and drawings of the city engineering, public works, and utilities departments not only takes time, but frequently requires the use of manpower not now available. Because of its labor saving and excellent work, a new machine for lettering municipal drawings and documents now may be obtained by cities. For literature describing this device, write Underwood Elliott Fisher Co., One Park Avenue, New York, N. Y.

License Tax Identifications

730. Don't overlook the bulletins and literature on the rugged and yet "non-critically constructed" license plates and tax identification seals made by Meyercord Co., Dept. 1487, 5323 West Lake St., Chicago, Ill. These are special tamperproof seals that prevent illegal transfer and assist police and other officials in detection and inspection. They cannot be lost or counterfeited.

Trolley Coach Maintenance

731. Booklet B-3196 issued by Westinghouse Electric and Mfg. Co., East Pittsburgh, Pa., entitled "Inspection and Care of Trolley Coach Electrical Equipment" gives pertinent information on the proper maintenance to insure the most efficient performance of trolley coach equipment. This book emphasizes light inspection every 1,000 miles and heavy inspection every 8,000 miles, and gives specific suggestions for other parts of the equipment.

Concrete Maintenance with Mud Jacks

732. If you are interested in a way to maintain your concrete streets and sidewalks with a minimum of manpower and at low cost, write for the new mud jack bulletin issued by the Koehring Co., Milwaukee 10, Wis. The mud jack raises sunken concrete walks, curbs, gutters, sidewalks, streets—and any other place where concrete slabs are employed.

Fire Alarm Systems

733. Do you want to know what an efficient, smoothly operating fire alarm system requires? The comprehensive bulletin published by The Gamewell Co., Newton Upper Falls, Mass., entitled "Municipal Fire Alarm Systems," will give you just exactly this kind of information. Well illustrated and excellently prepared it covers not only the type of equipment now in central plants, but also includes fire alarm boxes and automatic fire detectors as well.

Broom Fibres for Street Cleaning

734. The Otto Gerdau Co., 533 Canal St., New York, is in a position to supply you with all types, grades, and standard lengths of fibre for rotary brooms from a fresh stock. Write this company for data that you may desire.

Fire Hydrant

735. Water works superintendent, fire chiefs and other municipal officials will be interested in Bulletin 62 issued by The Kennedy Valve Mfg. Co., Elmira, N. Y. The folder discusses the design of the Kennedy SAFETOP fire hydrant, includes sectional views which show in detail the construction of the hydrant and illustrates the Safety Breakable Section which can be replaced in a half hour. There is also a complete part list and a chart of general dimensions.

Vol. XVIII, No. 7 The American City July, 1943

Small Municipalities, Too, Are Planning for Post-War Improvements

Since November 1943, THE AMERICAN CITY has published six instalments of replies to a questionnaire on post-war planning from cities in various population groups, totaling 266 in all.

Early in June the questionnaire form (repeated below) was sent to municipalities of from 10,000 to 15,000 population. Replies received from this group up to June 25 totaled 49. The first alphabetical instalment of these appears on this and the next page; and the rest, together with any replies that may be received prior to July 25, will be published in the August issue.

The questionnaire form, identical with that sent to the larger cities, asked the following questions:

1. *"Has your city begun to plan for post-war public works or other municipal improvements to be undertaken when materials and manpower are available?"*

2. *"If so, what are the principal types of projects contemplated in these plans?"*

3. *"By what departments of the municipal government are such plans being made?"*

4. *"Does your municipality have a planning commission? If so, what responsibilities and powers does that agency have as to post-war planning?"*

5. *"Is your municipality setting aside any reserves, in war bonds or otherwise, for post-war public works?"*

The small percentage of municipalities which answered "No" to question number 1 are not listed. The accompanying synopsis gives the answers to questions 2 to 5, with the name and title in each case of the official furnishing the information.

Alpena, Mich.

DONALD M. OAKES, City Manager:

2. Sewage disposal plant; Highway Department garage; new pavements; replacement of wood water mains; expansion of park facilities; revamping of street lighting circuits; improvement of waterfront
3. Department of Public Works
4. No. An election will be held June 28 to determine whether the City Charter will be revised; nine Charter Commissioners will also be elected. It is hoped that a Planning Commission will be included in the revised charter
5. No. Although during the past year the city has come closer to operating on a cash basis, it is not believed advisable at this time to raise taxes in order to set up a reserve fund

Ames, Iowa

J. H. AMES, City Manager:

2. Sewage disposal plant; municipal airport; additions to municipal utilities; various street improvements
3. City Manager's Office
4. Yes. However, it has assumed little responsibility to date for specific post-war projects
5. Yes. We believe adequate funds for post-war projects will be available when the proper time comes

Anaheim, Calif.

E. P. HAPGOOD, City Engineer:

2. Fire Station; water storage tanks; curb and sidewalk construction and repair; street paving and resurfacing; sewer, storm sewer, and main extensions; electric distribution system improvements; pedestrian underpass and rail-grade separation
3. Engineering Department; Light, Power, and Water Department
4. Yes. City and Orange County Planning Commission
5. Yes

Andover, Mass.

ROY E. HARDY, Chairman, Board of Selectmen:

2. Town office and school buildings; roads and bridges; water and sewer extensions
3. A Special Committee
4. Yes. Cooperative and advisory
5. In March 1943, $50,000 was appropriated at the annual town meeeting as a permanent reserve fund for post-war construction

Atchinson, Kansas

DEAN VAN NESS, City Manager:

2. Filtration plant for swimming pool; extension of sanitary sewer lines; street widening, alley paving and concrete sidewalks
3. Engineering Department
4. Yes. It makes surveys and recommendations and advises the governing body.
5. Yes. A state law was enacted permitting a levy for creation of capital improvement fund

Ashland, Ohio

GLENN B. HALLER, Mayor:

2. General improvements; construction of city building being considered
3. City Council
4. No planning commission
5. Yes

Beaver Dam, Wis.

CLARENCE J. KELLER, Mayor:

2. School building; park and recreation extension; highway, curb, and cutter construction; sewer improvement and extension
3. Will probably be started by Plan Commission, with the assistance of a Citizens' Committee and committee of the Common Council
4. Yes. It is limited primarily to zoning
5. Yes. Very substantial amounts in war bonds and other special improvement funds have been set aside

Bend, Ore.

C. G. REITER, City Manager and Engineer:

2. Street paving and drainage; Water Department extensions and replacements
3. Street and Water Departments
4. Yes, but it is inactive
5. Yes

Big Spring, Texas

J. D. MCWHIRTER, City Secretary:

2. Extensive paving
3. Department of Engineers
4. No planning commission
5. Yes

Birmingham, Mich.

H. H. CORSON, City Manager:

2. Two reinforced concrete bridges; addition of chlorination and grit chambers to sewage-treatment plant; construction and completion of several reinforced concrete and vitrified clay pipe sewers and drains; other miscellaneous projects
3. Engineering Department
4. Yes, but it is not active
5. Yes, we have made a small start

Bogalusa, La.

K. I. BEAN, City Clerk:

2. Water and sewer extensions; street paving; park improvements
3. Departments of Street and Parks
4. No planning commission
5. No

Borger, Texas

A. A. MEREDITH, City Manager:

2. Paving and paving rehabilitation; auditorium; airport; extension of sewer system
3. All plans are under the direction of the City Manager
4. No planning commission
5. No, this is not legal in Texas

Boulder, Colo.

H. C. MCCLINTOCK, City Manager:

2. City hall and other buildings; bridges, both large and small; sewer extensions;

street, water works, and airport improvements
3. Engineering Department
4. Yes. It was granted full power by the charter to make comprehensive city plans
5. Yest, the Water Department is. However, there are no reserve general funds available, with the exception of a small surplus at the end of each year which accumulates very slowly

Bryan, Texas

W. W. Scott, City Manager:
2. Street paving; storm and sanitary sewers; power plant improvements
3. City Engineer
4. No planning commisison
5. No. All savings are returned to the taxpayer through tax reductions

Cairo, Ill.

Peyton Bebrling, Corporation Counsel:
2. Levee front improvement; airfield; filling-in of low places
3. City Council as a whole
4. No planning commission
5. No

Canton, Ill.

John Kleinsteiber, City Engineer:
2. Improving streets
3. ———
4. No planning commission
5. No

Carteret, N. J.

August J. Perry, Clerk:
2. Repairing municipal buildings, roads, and highways
3. Engineering and Street Departments
4. No planning commission
5. No

Carthage, Mo.

J. C. Griggs, Mayor:
2. Annex to hospital and library; extension of school system; enlargement of airport; several other projects
3. A joint committee of Chamber of Commerce members and city officials
4. Yes. A Planning Committee which makes suggestions and recommendations to the city officials
5. We are trying to build up a cash reserve for that purpose and, at the same time, reduce our present indebtedness

Chambersburg, Pa.

H. R. Forbes, Chief Burgess:
2. New fire house, filter plant, and storm sewers; electric light plant improvements
3. Electric Light, Water, Street, and Fire Departments
4. No planning commission
5. Yes

Chippewa Falls, Wis.

John Zesiger, Mayor:
2. City building; sewage disposal plant
3. ———
4. ———
5. Yes

Clearwater, Fla.

F. L. Hendrix, Mayor:
2. Airport; recreational facilities; enlargement of gas utilities
3. Engineering Department
4. No planning commission
5. Yes

Clovis, N. Mex.

R. B. Worthington, City Manager:
2. New fire station; municipal auditorium; storm sewers; street paving and sidewalks; garbage incinerators; golf course and tennis courts; addition to city hall building; extension to city hospital building
3. Executive Department in collaboration with the City Commission
4. No planning commission
5. No

Corapolis, Pa.

Charles L. Isenberg, Burgess:
2. Park; swimming pool; new streets
3. Civic Improvements and Street Departments
4. No planning commission
5. Yes, in order to build up a surplus we did not reduce taxes

Coeur d'Alene, Idaho

O. W. Edmonds, Mayor:
2. Improvement of waterfront; completion of sewer project
3. City Planning Commission
4. Yes, it acts in an advisory capacity to the City Council
5. No

Cranford, N. J.

J. Walter Coffee, Clerk:
2. Storm and trunk sewer projects
3. Engineering and Road Departments
4. Yes, it advises and recommends plans and projects to the Township Committee
5. No. We have no funds other than those which were previously set aside in a trust account

Crawfordsville, Ind.

Thomas L. Cooksey, Mayor:
2. Airport; swimming pool; street and alley paving; additional street lighting
3. Street Department and Crawfordsville Electric Light and Power Co.
4. No planning commission
5. Yes

Darby, Pa.

H. P. Clark, Secretary:
2. Borough hall
3. City Council
4. No planning Commission
5. No

Denton, Texas

Lee Preston, Mayor:
2. Water reservoir; cooling tower for power plant; sewer plant and system improvements; reconstruction of electric distribution system
3. Utility Department
4. No planning commission
5. Yes

Derby, Conn.

Cornelius F. Caldwell, Mayor:
2. Sewerage disposal plant
3. Board of Aldermen
4. No planning commission
5. No

Dixon, Ill.

William V. Slothower, Mayor:
2. Storm and sanitary sewers; resurfacing brick pavement with asphalt; concrete street improvements
3. Board of Local Improvement and Street Department
4. No planning commission
5. We have a large amount of credit (tax funds) with the State of Illinois

Durant, Okla.

M. T. Overstreet, Mayor:
2. New fire trucks; street paving; bridges; water line extension
3. Fire Department; Street and Water Department
4. Yes
5. No

Dyersburg, Tenn.

L. D. Hamner, Mayor:
2. Water works; sewerage disposal plant and extension of sewers; zoning
3. Board of Mayor and Aldermen
4. No planning commission
5. Yes

Ecorse, Mich.

Leland R. Gare, City Engineer:
2. Trunk relief sewer; water distribution system; pavements; parks
3. Engineering and Building Departments
4. Yes. Advisory
5. No

Emporia, Kans.

E. W. Daniels, Utility Commissioner:
2. Extensive improvement in water works and sanitary and storm sewers; resurfacing streets; paving
3. Utilities and Street Departments
4. No planning commission
5. Yes

Escanaba,, Mich.

George E. Bean, City Manager:
2. Civic and recreational center; city and county service center; yacht harbor and park service building; beach house, band shell; tourist camp; storage warehouse; sidewalks, and street and alley paving; storm and sanitary sewers; elevated water storage and water mains; park development; reforestation project; steam plant and service extension
3. Engineering Department
4. A City Council of five members acts as a planning commission; it has complete power of council
5. Yes

East Point, Ga.

E. G. Laney, Mayor:
2. Storm sewer drainage system; fire alarm system; new fire department building
3. Mayor and Council
4. No planning commission
5. Not at present

Fairfield, Ala.

C. N. Gilley, Mayor:
2. Additional school building; sanitary and storm sewers; paving; incinerator
3. Administrative
4. No planning commission
5. No. We are just completing a new city hall building and it has taken all available surplus

Fergus Falls, Minn.

Paul J. Stender, Mayor:
2. Street oiling; sewers; water mains
3. City Council
4. Yes, it investigates and reports to City Council
5. Yes

Floral Park, N. Y.

Edward J. Rock, Village Clerk:
2. Extension to public works building; swimming pool; incinerator; catch basins; construction and resurfacing of roads; street drains; curbs, sidewalks
3. Public Works Department
4. No planning commission
5. Yes

Fort Thomas, Ky.

Charles H. Kuhn, City Engineer:
2. Public building; streets; sewers; park
3. City Engineer
4. Yes. It "shall from time to time recommend to appropriate public officials programs for public structures and improvements and for the financing thereof." New streets and subdivisions must be approved by the Planning Commission before acceptance or recording
5. No legal provision for such a fund in Kentucky. Have requested Kentucky Municipal League to sponsor such a bill. However, we have accumulated a surplus and hope to use it for post-war public works

(To be continued next month)

Facts Save Money

By HAROLD SEIDMAN

Director, Division of Coordination and Research, Department of Investigation

and

LOUIS E. YAVNER

Legal Staff, Department of Investigation, City of New York

WHEN a government agency saves money, that's news. When a government agency as part of its routine day-to-day work is able to save a sum more than double its annual budget, it deserves to be blazoned in the headlines. Yet, with comparatively little publicity for this phase of its work, New York City's Department of Investigation has established such a record during the past five years. In addition to the considerable but intangible economies resulting from its studies and investigations, the Department has been able to make tangible cash savings for the city of no less than $2,500,000.

Under the administration of Commissioner William B. Herlands, the Department of Investigation has demonstrated time and again that "facts save money." Failure to know the facts costs government and industry many millions of dollars annually. Extravagance and waste in both government and industry are often due not to inefficiency or corruption, but to ignorance of facts which cannot be ascertained except by a skilled investigation. Among governmental agencies the Department of Investigation is unique in that its exclusive job is to get the facts. Whether the work is described dramatically as probes or investigations, or more prosaically as studies or surveys, the Department's function is to collect and analyze facts and to make recommendations based upon the facts.

To find the facts the Department is empowered by the city Charter to roam throughout the broad field of city government. The Commissioner is authorized to make any investigation directed by the Mayor or Council, or any study "which in his opinion may be in the best interests of the city—including, but not limited to, investigations of the affairs, functions, accounts, methods, personnel or efficiency of any agency." For the purpose of ascertaining the facts in connection with any study, the Commissioner and his deputies are given the right "to compel the attendance of witnesses, to administer oaths and to examine such persons as they may deem necessary."

Printing Costs Reduced

Some investigations involve the laborious assembling and analysis of thousands of facts over a period of several months. But the results are usually well worth the effort. One such investigation into city printing, brought about a cash refund to the city of $225,000—an amount sufficient to pay almost the entire cost of the Department for one year. Examination of the bills and deliveries of printing by one printer had disclosed gross overcharges. The printing delivered was inferior in paper stock or other respects to that specified by the city.

This study also led directly to an annual saving of approximately $175,000 in city printing costs. The Department found that in ordering printing, stationery, and supplies the city Board of Elections did not take into account its actual current needs. For example, an inventory revealed that 51 per cent more copies of the official List of Registered Voters were printed than were ever used. Since the list was also published in the City Record, there was no need for an independent printing in the first place. Additional copies of the City Record list could be printed at a greatly reduced cost. Substantial economies were also achieved in cooperation with the Department of Purchase by the installation of improved specifications, standardization of printed forms used by various city agencies, and the adoption of improved purchasing methods.

Glass

Sometimes the practical application of only one or two facts, which were previously unknown, may be productive of large savings. Board of Education contract specifications for window glass called for type "A" glass. It was discovered by the Department that the distinction between "A" glass and "B" glass was based on the cylinder method of blowing glass which had become obsolete. There was little if any difference between the two types of glass, except in the price. In addition, since it was found that 90 per cent of the amount of the glass purchased for replacement purposes by the Board of Education in any one year was broken by the end of the year, purchase of the highest priced glass was obviously wasteful. A simple change in contract specifications has already enabled the city to save $40,000 in buying window glass for schools.

Granite and Concrete

Finding the facts about construction materials has often made it possible for the city to employ less costly substitutes without sacrificing quality. When it was proposed to use granite block for surfacing the extensions of the West Side Express Highway, an investigation showed that not only did concrete give a more satisfactory surface than granite block, but also the city could save at least $250,000 by the use of concrete. Granite blocks last longer, but the longer life does not compensate for the greater initial and annual cost. Similarly, the Department's engineers prevented the use of "pre-cast terrazzo" instead of "cast-in-place terrazzo" as flooring material in the construction of the Queens General Courthouse. "Pre-cast terrazzo" would have cost four times as much as "cast-in-

Today there is much talk about "streamlining government." If this is to be something more than a slogan, we must candidly recognize the need for the systematic and scientific investigation of each agency of government. Government administration can be effectively modernized only when we are forearmed with a critical knowledge of the facts. Fact-finding must be admitted to full partnership with policy-making if we are to competently reconstruct the machinery of government. These premises underlie the day-to-day work of the Department of Investigation in the field of municipal government.

WILLIAM B. HERLANDS

(From a report of a recent survey which indicated that the City of New York could save $500,000 in the purchase of school supplies.)

place terrazzo," despite the fact that it is neither better in appearance nor more durable.

Medical and Hospital Costs

The sources of economies achieved by the Department have been as numerous and varied as the services performed by the city. Recently, the Commissioner of Investigation was directed by Mayor LaGuardia to find out why the medical and hospital costs of injured municipal employees had skyrocketed 166 per cent, although the number of compensation claims filed against the city had fallen 12 per cent. His study revealed that the city was being defrauded of thousands of dollars annually by a ring of private doctors who padded bills and habitually over-treated and over-hospitalized injured city employees. Getting the facts in this case brought about a $100,000 a year reduction in city compensations costs.

Real Estate

Another $100,000 was saved for the city by revising office procedure in condemnation proceedings. A survey indicated that an average of sixty-one days elapsed between the date of the signing of the final decree and the final payment of the award in condemnation proceedings. As a result, the city was compelled to pay $569,857 in one year in accrued interest. By speeding up the payment process through improved office procedures installed by the Department, the city was able to cut interest charges almost 20 per cent.

Analysis by the Department of 279 parcels of city-owned property with an assessed valuation of $19,565,390 disclosed that most of the property was lying dormant without bringing in revenues. At the Department's suggestion many of the parcels were disposed of at the best market values and are now back on the tax rolls where they are an economic asset to the city. Reorganization of the city's Bureau of Real Estate immediately increased the revenues derived from city-owned property.

Other Savings

Among other notable savings achieved by the Department have been the recovery of $263,000 in delinquent sales taxes; a $72,000 reduction in the cost of the Bellevue Hospital heating plant; and a saving of $220,000 in connection with the installation of the Bellevue Hospital telephone system.

Knowledge of the facts can make comparable savings possible in every American city and town. New York City is not unique in having these problems. Yet, municipalities have all too often regarded independent research investigations and fact-finding as an expensive luxury. Few city departments are equipped to find the facts for themselves. Rarely can time be taken out from constructing buildings, cleaning streets, extinguishing fires, collecting taxes, and other vital city services to conduct surveys and investigations. Even if the time were available, the necessary staff would be lacking. Fact-finding is an art which requires something more than technical knowledge: it requires special techniques, skills, and, most important, experience.

The Department of Investigation has clearly proved that fact-finding is not a frill. The skilled investigator is an indispensable adjunct of efficient administration. Facts can be made to yield rich dividends.

To Aid Cities in Acquiring Land for Private or Public Redevelopment

LOANS for land-acquisition and grants for planning to a combined total of a billion dollars for the first fiscal year of its operation, would be made available to municipalities under the terms of a bill (S. 1163) introduced in the United States Senate on June 4, by Senator Robert F. Wagner of New York.

The proposed "Neighborhood Development Act," sponsored by the Urban Land Institute, differs in several important respects from the "Federal Urban Redevelopment Act of 1943," drafted by Alfred Bettman and introduced by Senator Thomas, the distinctive features of which were outlined in the May issue of THE AMERICAN CITY (page 71).

To enable readers of THE AMERICAN CITY to compare the two measures, the following excerpts from the Wagner bill are published:

Declaration of Policy

"It is hereby declared to be the policy of the United States to promote the general welfare of the Nation by employing its funds and credit, as provided in this Act, for the assembly of land in deteriorated urban areas for subsequent reconveyance by sale or by lease for development or redevelopment by private enterprise and by public improvement; to encourage and assist the wholesome neighborhood conditions that are necessary to family life by private enterprise with the collaboration of public enterprise; to encourage the widest possible extent of home ownership; to assist towns or cities, or appropriate instrumentalities thereof, in the assembly and clearance of land as a necessary preliminary to this purpose; to provide grants for the preparation of development plans; and to stimulate employment and economic activity in the Nation during the post-war period.

"The immediate purpose of this Act is to assist cities and towns in acquiring land in deteriorated urban areas to be sold and leased for the building of dwellings and for other construction now being planned for the post-war period, so that work in various types of construction and land improvement may be coordinated and made ready for execution in the post-war period.

"It is the express intent of this Act that its provisions be construed and administered to encourage the rebuilding of deteriorated urban areas wherever they exist, whether in central areas of cities or in districts removed from the centers of cities."

Loans for Land Assembly

"1. The National Housing Agency is hereby authorized to make loans to cities, or appropriate instrumentalities of cities, for the purchase of land and improvements thereon in areas that are designated in a development plan for development or redevelopment by private enterprise and by public improvement; for the clearance of the land so acquired; for the installation, construction, or reconstruction of streets and utility improvements essential to the preparation of sites for neighborhood rebuilding. The proceeds of such loans shall not be used for construction of buildings for residential or other use.

"2. Eligibility of a city, or an instrumentality of a city, for a loan under this section from the National Housing Agency shall be determined within the discretion of the Administrator upon the submission of a development plan for the city, or for the metropolitan district containing the city. If the Administrator shall find that the development plan so submitted, including detailed plans for the redevelopment of areas to be acquired under loans from the Agency, is acceptable within the terms of this Act, the loans may be granted.

"3. Upon the granting of a loan under this section, the Agency shall contract with the city, or instrumentality thereof, to repay the loan within a period in no event

to exceed ninety-nine years. Such contracts shall provide that security for the loan is to be in the form of a lien upon the land acquired with it by the city, or instrumentality of the city, or in other appropriate form, but not by the faith and credit of the city. Such loans shall bear such rates of interest as shall be prescribed by the Agency.

"4. When any parcel of land acquired by a city, or instrumentality of a city, pursuant to this section is sold to an individual, company, or corporation, the Administrator shall, upon receipt of the proceeds of such sale, apply such proceeds to reduce the indebtedness of the city, or instrumentality of the city, and he shall alienate that parcel from the lien of the Agency.

"5. No provision of this Act may be construed or administered to permit speculation in land holding. When land that has been acquired under the provisions of this Act by a city, or instrumentality of a city, is sold or leased, the contract terms of such sales or leases shall obligate the purchasers or lessees to begin the building of their improvements within a reasonable period of time.

Grants for Planning

"1. The National Housing Agency may issue to any city, or appropriate instrumentality of any city or metropolitan district with legal authority to prepare a development plan for adoption, a grant to defray expenses incident to the making of such development plan.

"2. Grants for the preparation of development plans shall be in amounts determined by the Agency."

The program contemplated in the Wagner bill, according to Charles T. Stewart, Director of the Urban Land Institute, should draw about $5 of private money and credit into the rebuilding for every dollar of Federal credit to be extended. On the basis of a 10-year program, this would mean construction totalling 50 billions in private funds for the 10 billion dollar extension of Federal credit.

In his statement when introducing the bill Senator Wagner said, in part:

"This is not a post-war bill. The problem with which it deals must be met forthrightly before the war is over, in order that industry and finance, as well as state and local governments, may be prepared and ready to act when the war is over. . . .

"This bill deals with problems facing not only those interested from all points of view in the development of real estate in established communities, large and small, but also those interested in large-scale financing and in investments which are going bad because of decay and blight. It is thus a problem close to municipalities and taxing units, large and small.

"I am introducing this bill by request. I do not believe that it is a perfect measure, but rather one which requires a great deal of additional and intensive study. The bill, I hope, will afford this opportunity for study and discussion throughout the country. It is likely that revisions will be suggested before enactment."

At Senator Wagner's request the bill, on introduction in the Senate, was referred to the Committee on Banking and Currency.

Radford Federal Recreation Building, Radford, Va.

What About Our Army in Overalls?

By HAROLD J. WEEKLEY
Federal Security Agency
Community War Services

DURING war times Mr. and Mrs. Average Citizen have a tendency to accept more readily the idea of providing recreation for those in the armed services than for industrial war workers. However, both groups of people—the "Army in Overalls" and the "Army in Uniform"—need proper recreation!

In the past year our nation's war-pressed industrial output lost more than 484,000,000 work days as a result of off-the-job causes. This loss of time will probably grow during the present year, with a labor force 13,000,000 greater than normal. Therefore, the big problem today is—reduce absenteeism.

A Community Responsibility

Only 10 per cent of the total amount of time lost by war workers is a result of on-the-job conditions (accident, health, etc.). The average worker spends about two-thirds of his time away from work, and it is during the off-job hours that much personal sabotage occurs. Most of the workers live away from the plant location and desire their recreation nearer home. The worker also likes his family to enjoy the benefits of community centers, playgrounds, parks, and the like. Thus, it is readily seen that recreation supplied by the industry at the job-site can seldom solve the total problem. It is the responsibility of the municipality to offer to the greatest number of people the most desirable form of recreation possible.

The Contribution of the Federal Government

The importance of recreation during the war emergency was recognized by the Federal Government when the Recreation Section of the Federal Security Agency was established by executive order in December 1940. This Section, under the guidance of Mark A. McCloskey, has the responsibility of coordinating all recreation during the war. Its representatives have helped in establishing War Recreation Committees in more than 1200 communities of the United States. Their services have been primarily in the areas filled with members of the armed services or war workers. A total of 265 Federal recreation buildings have been built throughout the country, of which 22 are helping to serve war workers. These structures were built by the Army or the Federal Works Agency. Each social center was certified by the Federal Security Agency as a war need. The FSA received the building from the Federal Works Agency and in turn handed it over for operation to the municipality in which it was situated,

or to the United Service Organizations.

Construction varied from simple frame buildings, designed for use during the emergency, to more elaborate structures such as the one located at Radford, Va. (shown in illustration). The Radford building includes public library, offices, lounge, toilets, kitchen, snackbar, social room, gymnasium, craft and hobby shop, maintenance shop, dark room, health room, showers and dressing rooms for men and women, handball court, storage space, coal room, and furnace room.

In Federal Security Agency Region IV, three Federal recreation buildings, primarily for war workers, have been built at Charleston, Morgantown, and South Charleston, all in West Virginia, in addition to the one at Radford, Va. With the aid of the Federal Security Agency, these communities are now able to have greatly expanded programs for war workers. A Public Recreation Commission, part of the city government, is the operator of the recreation building in each case. Each city has hired a full time Superintendent of Recreation who is director of the building and plans the entire municipal recreation program. The WPA, until it was terminated, supplied most of the funds for recreation leadership, while city funds paid for heat, light, water supplies, a janitor, and the director. Since the withdrawal of WPA assistance, leadership is paid for from municipal tax funds. In Point Pleasant, W. Va., the War Recreation Committee was able, for the first time, to hire a full time director of recreation for the summer months. It is planned to continue this procedure and to have a full time director in the near future.

Contribution of USO and FPHA

The USO is spending approximately 6 per cent (a percentage which is now being raised) of its total expenditure for industrial workers and their families. It spends this money chiefly for renting old store buildings, women's clubrooms, mansions, or renovating other structures. Three USO agencies —the YMCA, YWCA, and the women's division of the NCCS—provide off-job activities for war workers and their families. An outstanding contribution is being made at Dublin, Va., where the USO director has fought an uphill battle to get the residents of this small rural community to accept the newcomers. All residents, new and old, are now participating in the varied program offered by the USO.

The Federal Public Housing Authority has been contributing to the cause of war worker recreation by providing recreation for people at all new housing projects of 50 dwelling units or more. A minimum indoor area of 9 square feet per housing unit for community facilities is being built on all new developments. Some older projects that lacked these essential facilities are now receiving them. The FPHA has also been supplying a minimum outdoor play area of 0.3 acre for 50 dwelling units; 1.9 acres for 300 units; 3.9 acres for 1,000 units, etc. Recreation personnel is provided in some of these projects by FPHA. Others are supplied by the community, USO, or some other organization.

Need for Coordination

It can readily be said that there are never too many organizations providing recreation. However, the activities of these groups often must be coordinated in order to get the best results. The Recreation Section of the Federal Security Agency (Office of Community War Services) has been aiding communities in marshalling all their resources, as well as in coordinating the efforts of various groups. Recreation for war workers and their families requires the combined efforts of municipal Park and Recreation Departments, management, labor, USO, FPHA, NYA, WPB, FWA, private agencies, civic clubs, War Recreation Committees, plant recreation associations, OCD, and all other interested groups.

Aid Available to Municipalities

As for the specific aid available to municipalities in war production areas, there is, first, the matter of funds, and second, the matter of consultation.

Where the impact is not sufficient to establish a full time USO unit leadership, but where the community is finding it difficult to carry on the services for war workers, USO may grant permission to the community to retain, for this purpose, a small portion (perhaps 10%) of the money raised from the USO drive. USO will establish centers where outside assistance is needed in caring for war workers or servicemen.

The only Federal funds available are from the Lanham Act. These applications are processed through the Federal Works Agency with certification from the Federal Security Agency, Recreation Section. Unless the impact is terrific, there is little chance of getting funds.

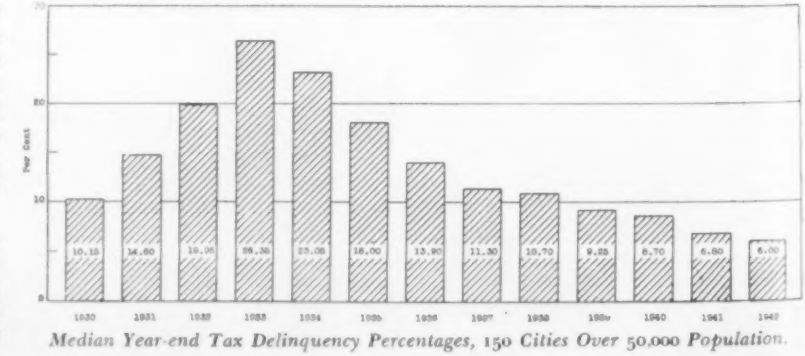
Field representatives of the Recreation Section of FSA's Community War Services will give assistance in helping these war-expanded communities to marshall their resources to meet the problem. The community can reach the field representatives by writing Mark A. McCloskey, National Director of Recreation, 5656 Social Security Building, Washington, D. C., and stating its needs. It will then be referred to the field man covering that particular territory.

Field representatives of the National Recreation Association, at 315 Fourth Avenue, New York City, may also give some assistance to communities in which the municipalities are interested in financing the program.

Municipal Tax Collections Improve

A MEDIAN year-end delinquency of only 6 per cent on current tax levies for 150 cities of over 50,000 population in 1942 is shown in Dun & Bradstreet's report on "Trend of Tax Delinquency, 1930-1942," by Frederick L. Bird, published last month. As the accompanying chart indicates, in the early years of the depression of the 1930's the median ratio had risen sharply and ominously—from 10.15 in 1930 to 26.35 in 1933; but by 1939 the 1930 level had been more than regained, with a ratio of 9.25.

While pointing out that the outlook for property tax collections in 1943 is good, Dr. Bird warns that "Probably the biggest hazard to financial stability is the demand for local tax reduction, regardless of how achieved, at a time when budgets should be making full allowance for uncertainties in tax yields and for deferred maintenance."



Median Year-end Tax Delinquency Percentages, 150 Cities Over 50,000 Population.

Squelching Fires in a Water Works

AN eastern water company, supplying a population of approximately 500,000 persons, plans to erect a post-war treatment plant for an ultimate capacity of 75,000,000 gallons of water per day, using activated carbon to remove odors and taste. The company and its consulting engineers intend it to be the last word in design of water treatment plants, including carbon-dioxide for fire protection in the carbon storage rooms and feed room.

Supporting the need for adequate fire protection is the fact that three fires have occurred in the steel carbon-storage bunkers of the Milwaukee water purification plant. They were extinguished by carbon dioxide. James E. Kerslake, Superintendent of Filtration, writes:

"It is our belief that the fires were due to spontaneous combustion and that very careful handling of the material is required to prevent fires developing in the steel storage bunkers. Carbon-dioxide cylinders were provided for general plant fire protection at the time it was originally designed and, as shown by the results we have obtained, they have proved to be very effective in controlling fires in our steel bunkers in which activated carbon is stored."

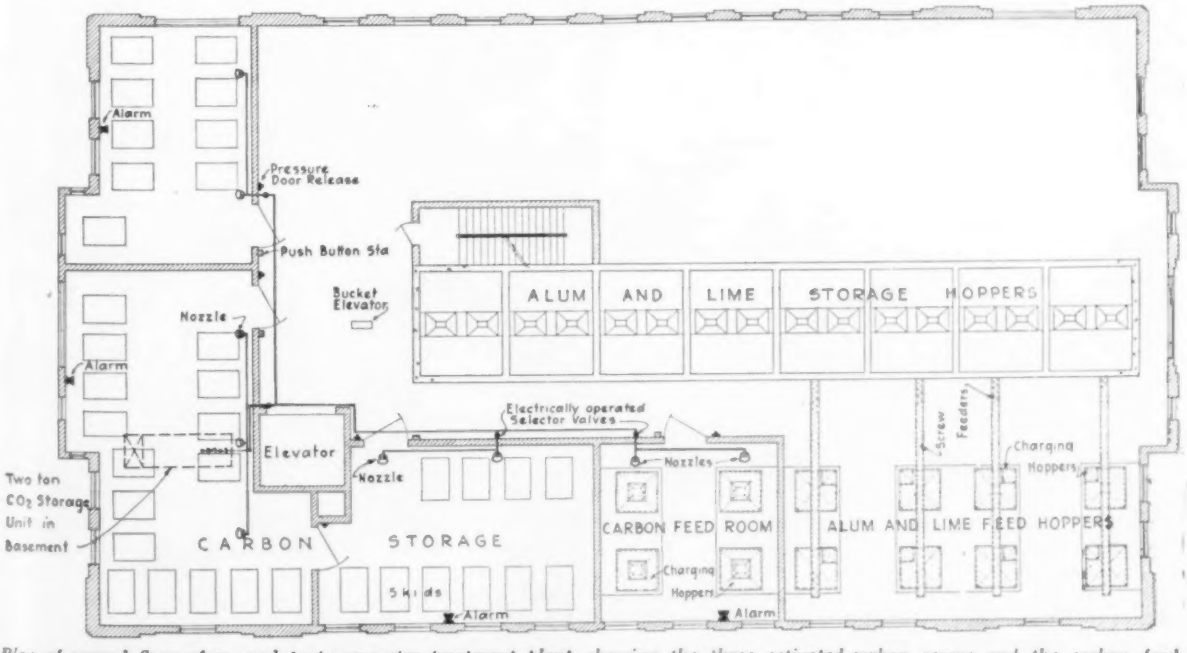
Furthermore, similar protection is given the storage areas for 500 tons of activated carbon in bags at the world's largest water treatment project, Chicago South District Filtration Plant.

Fire Extinguishing System

At this proposed plant now being designed, there are three carbon rooms and one carbon feed room. The carbon will be delivered by trucks to a loading platform inside of the building, unloaded in its original containers on skids, and carried to the second floor by means of a freight elevator.

The accompanying plan drawing shows the carbon rooms equipped with a Cardox system capable of producing a fire extinguishing concentration of 55 per cent CO_2. A 2-ton storage tank in the basement gives double-shot protection for the largest hazard. This means that after one discharge, the unit will still contain enough CO_2 to supply complete and uninterrupted protection during the interval preceding recharging to full capacity. The tank has a 4-inch outlet, 1½-inch fill line and 1-inch vent line. It requires a clearance space of 19 x 8½ feet x 10½ feet high. The feature of this system is the ¾-horsepower refrigerating unit which keeps the CO_2 in the tank at about 0 degree F. At this temperature, CO_2 is a liquid at only 300 pounds per square inch pressure, whereas at 88 degrees it is a gas at 1,050 pounds pressure. It is this low temperature and consequent low pressure which permits the use of a large single storage unit.

Other equipment includes an electrically operated tank control valve and a device to open this valve automatically in the event of an electric power interruption, 8 carbon-dioxide discharge nozzles, 24 Edison thermostats, 4 manual push-button stations, 5 automatic pressure-operated door releases, and 5-alarm howlers. The system is completely automatic, with the thermostats located as directed by the National Board of Underwriters. Convenient push-button stations enable an employee to place the system in operation if a fire is observed before the thermostats have actuated. Upon operation, the system sounds an alarm which enables employees to leave the storage rooms before the discharge takes place.



Plan of second floor of 75-mgd post-war water treatment plant, showing the three activated-carbon rooms and the carbon feed room, with location of piping and storage for carbon-dioxide fire protection

The Story of Vanport City

A City of 40,000 People is Built in a Nine-Month Period

By HARRY D. FREEMAN
Executive Director, Housing Authority of Portland, Oregon

VANPORT City, America's largest and most colorful housing project, was built to meet a national emergency. It was not entirely created out of "blood, sweat, and tears," but the second ingredient was present in abundance. From the FPHA engineer in charge of construction down to the humblest of women ditch diggers, speed was the watchword. The men behind the drafting boards and in the field worked against every conceivable obstacle and delay, such as priorities, war restrictions, shortage of materials, lack of labor that was inevitably gravitating toward the war industries, and against adverse weather conditions of rain, floods, and snow. But architects, contractors, and engineers worked on the premise that "anything could be done."

Contrary to the impression some have on the subject, Vanport City is not a suburb of Portland. It was built on an expanse of lowland, a former truck farm behind the dikes of the Columbia River, and outside the city limits of Portland. The site was selected for the war city because it was at about an equal distance from the three Kaiser shipyards in this area: Oregon Yard, Swan Island Yard, and Vancouver Yard, in Washington. The name was derived from the two adjacent cities of Vancouver and Portland.

Project's History

To go back to the beginning, it became imperative for the city of Portland to create a local housing authority for the construction of war dwellings to meet the emergency. So on December 11, 1941, the City Council passed the required resolution, and at once Mayor Earl Riley appointed the local authority. It consisted of Cecil M. Gartrell, a banker, who was to serve as chairman; Chester A. Moores, of a real estate management company; Mrs. C. S. Jackson, civic worker, and widow of the former publisher of the *Oregon Journal;* Herbert J. Dahlke, an apartment house operator; and D. E. Nickerson, Secretary of the Oregon State Federation of Labor. The writer, then of the City Planning Commission, was appointed by the new Authority to act as Executive Director.

The newly created Local Authority launched a war housing program at once, as a prologue, but the sensational Vanport City project was not even in the blueprint stage until toward the end of the summer of 1942. The Kaiser Company and the U. S. Maritime Commission were then working out tentative plans that later emerged as "Vanport City." The proceed order for this project was issued on September 14. On December 14 the first families were moving into their new quarters. Between these two dates lies the performance seldom, if ever, equalled in the construction history of our country.

"Two Dollar Contract"

Edgar F. Kaiser, son of the shipbuilding magician, with his "two-dollar" contract from the Federal Public Housing Authority, took general charge of the construction, turning the work over to sub-contractors. In line with the established standards of war housing that call for safe, decent, and sanitary dwellings, Wolff and Phillips, local architects, designed the complete lay-out for Vanport City, including roads and utilities. The George H. Buckler Co. and Wegman and Son, local contractors, are building the apartment buildings, schools and other public buildings, together with all roads and utilities. The Housing Authority of Portland acts as the local agent of the FPHA and is operating and maintaining the project.

The "Two-dollar" contract means just what it says. The Kaiser Company, Inc., has a cost-plus-a-fixed-fee contract with the Federal Housing Authority for the construction at Vanport City. The fixed fee is $2 and represents the net profit. The reason for this unusual arrangement is that no funds were available under the Lanham Act at the time this project was needed, and U. S. Maritime Commission funds were used temporarily. The Federal Housing Authority in turn will take over the development on outright purchase.

The anticipated cost of the completed development will be in the neighborhood of $26,000,000. Federal funds are supplied under the terms of the Lanham Act, of the 76th and 77th Congress. The estimated gross annual income is 4½ million dollars, and the operating expense is 2 millions; however, financial profit was not the motive for the erection of the city.

At present, provisions for tenants are being made at the rate of about 500 dwelling units a week. When finished, the Victory City will shelter 40,000 war workers, thereby becoming the second largest city in Oregon and the Northwest's fifth city in size.

The war city occupies 650 acres of reclaimed ground made usable by a great diking system started long before the present emergency. It lies near the Interstate Bridge that spans the Columbia River, in the northwest corner of the Portland metropolitan area. Bordering the project, is Denver Ave., one of the main arterials of the Pacific Highway, and two miles to the north is the extensive amusement development known as Jantzen Beach.

In the colossal task of raising a modern city from its foundations in record time, nearly 3,000 men and women have been employed. About 44 million board feet of lumber from the forests of the Northwest were processed for this housing event.

How the City Grew

The project is in no sense a planned city. It grew on paper and on the ground as many other American cities have grown, except for the vital time element. In the paper stage, the preliminary plan showed apartment, service, and maintenance buildings, with streets, sewers, and an electrical distribution system. But after construction was under way, other essential community services were added to the plan, such as commercial centers, schools, churches, and recreation centers. The "city" will be densely populated as compared with the average Oregon city, which often spreads over three times as much land for considerably less population. The most no-

ticeable departure from the usual city is in the architectural uniformity of the apartment buildings — between seven and eight hundred in number— which provide 9,914 dwelling units.

The war city has its own utilities. The buildings are heated by coal-burning heating units, stationed in the service buildings, one of which is provided for every four apartment buildings. Heat is forced to the dwelling units in the form of warm air and controlled by regulators. Hot water is piped from the same building that supplies the heat.

Well Water System

A water system is supplied by wells 160 feet deep. Each well is equipped with Pomona 10-inch turbine pumps, having a capacity of a thousand gallons per minute against a 140-foot head. The water is forced into wood storage tanks 95 feet in height, holding a total of 150,000 gallons and chlorinated by five Wallace and Tiernan semi-automatic visible vacuum chlorinators. It is distributed through National Tank wood stave pipe that follows the eight miles of city streets.

Sanitation is preserved by an independent sewage system, by which the waste is pumped without treating into the Columbia River. Garbage is taken to the Portland city incinerator, and the weekly collection is maintained by private contractors.

When completed the unique little city will lack nothing that a modern community should have. In common with several other Oregon cities and 500 cities of the nation, it has a manager for its head. J. L. Franzen, former City Manager of Oregon City and lent to the Local Housing Authority for the emergency, is a veteran at this type of control. He is a member of the International Association of City Managers, past president of the League of Oregon Cities, and a member of the American Society of Civil Engineers. He is aided by an assistant manager and, under the direction of the Housing Authority of Portland, Oregon, administers the civic and business affairs of the community. It is estimated that a staff of 450 employees will be needed when Vanport City is filled to the last apartment. This staff will be accounted for in the rental, accounting, maintenance, property and personnel, fire, police, health, project services and recreation departments of the organization.

Because Vanport City is outside the corporate limits of Portland and under secondary fire protection only, an independent Fire Department has been provided. Fire protection is assured by the project department composed of a chief, an assistant chief, and 43 trained firemen, under the direction of the project fire engineer.

The Police Department functions under the law enforcement division of Multnomah County, with 20 resident officers stationed on the project, all under the wing of Sheriff Martin Pratt, Multnomah County.

Vanport City is only one out of 19 separate war housing projects either under construction or under the management of the Housing Authority of Portland, Oregon; but this largest of war housing projects furnishes 9,914 units out of the total of 17,511 family dwelling units. Recently the Local Authority was assigned 400 additional family units and 610 dormitory units. The Maritime Commission and the Kaiser Company have 9,000 barracks-type units under construction.

OREGON'S NEWEST AND SECOND-LARGEST CITY NOW BEING BUILT BY THE KAISER CO., INC., TO HOUSE SHIPBUILDERS IN THE PACIFIC NORTHWEST

Upper Left—A Group of the houses and apartments that are being constructed. Upper Right—School facilities. Lower Left—Recreation buildings. Lower Right—Market facilities and administration buildings.

Outgrowing an Activated Sludge Plant

Lawton, Okla., Adopts Chemical Precipitation to Meet a War-Induced Sewage Load

By WYATT B. HENDRICK
City Engineer

IF this war is doing nothing else, it is teaching some sound lessons on how to operate water and sewage-treatment plants that have become unmercifully overloaded, and how to adjust your plant to meet these overloads with the least amount of trouble. It has done that out here in Lawton and has done it with a vengeance. It has uncovered our sewerage sins and shortcomings for all the world to see, and has caused us to build a combination plant—the likes of which you probably never have seen before and may never want to see again. But take it from a hard-headed Oklahoma engineer, it does the job and does it well.

The War Comes to Lawton

The City of Lawton, located in the southwest corner of the state of Oklahoma, is principally an agricultural center, and our growth has been uniform and easy to predict. Census records during the years from 1930 to 1940 showed a steady, healthy increase from a figure of 12,000 to 18,055. The relatively small Fort Sill army post, located nearby, had but scant effect upon the city itself.

One year later, even before Pearl Harbor, this same little army post shook our city to the core and boosted our population to 36,000, or a full 100 per cent. Every resource of the city was taxed to the utmost in its effort to carry this heavy burden; but of all the municipal services the one that was practically overwhelmed was the sewage-disposal facilities. The treatment plant, based on the activated sludge process, was designed for a flow of only 750,000 gallons per day. It already had just about reached its full capacity before the war, and when, in this short period of time, a doubled load was thrust unceremoniously in its lap, the plant practically failed to function.

Sewage Practically Untreated

Actually it was little better than discharging the raw sewage directly into the water. Studies conducted by the city, with the assistance of the Oklahoma State Department of Health, showed the average oxygen demand of the raw sewage to be 284 ppm. The over-all plant efficiency in BOD removal was found to be 35 per cent, while the suspended solids removal was 48 per cent.

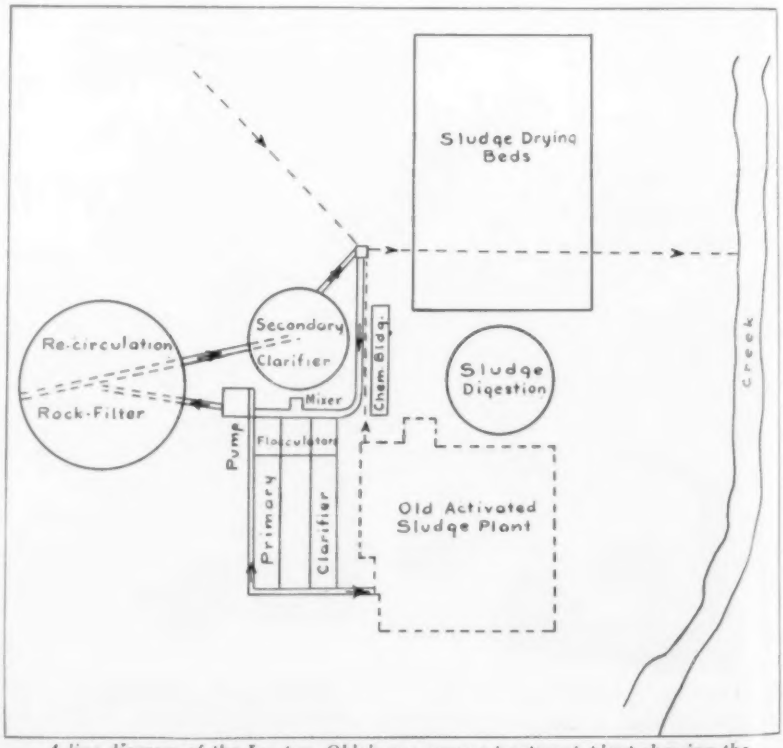
Weak Points Uncovered

Heavy overloads like this forcibly bring to light the weak points in the system and give up a guide in the design and operation of plants for the future. The clarifier was the first to show trouble created by an all-too-short detention line. This was more the result of poor maintenance than improper design, because of short circuits caused by sand being carried through the grit chamber and causing dead space in the unit. The trouble was not confined to the clarifier alone. The aerators and sludge digestion tank also were affected.

However, even the most meticulous type of maintenance would not have helped a great deal. Studies indicated the desirability of using, as far as possible, as much of the old plant as was still functioning satisfactorily, and of confining only the additions to the overloads. Consequently, when finished, we had a surprising combination of chemical precipitation, separate sludge digestion, high-rate filters, and activated sludge. We practically ran the gamut of the sewage-works profession.

New Arrangement

Under the present arrangement, the sewage flows to a flash mixer where it is prechlorinated, is precipitated with ferric chloride and lime, and dosed



A line diagram of the Lawton, Oklahoma, sewage-treatment plant showing the location of the old and the new units.

with ferrous chloride for odor control. From here it passes through flocculators and primary clarifiers large enough to handle the entire flow. At this point, 750,000 gallons per day are diverted and run through the old activated sludge plant. An old Wallace and Tiernan visible chlorinator was rehabilitated for chlorination of the effluent and return sludge in this part of the plant.

High-Rate Filters

The balance of the flow is forced by Pomona lift pumps through a high-rate recirculation-type trickling filter, and the resulting effluent proceeds to a secondary clarifier. It receives another dosing of chemicals just ahead of this clarifier to encourage a last bit of precipitation. The clarified effluent then makes one more trip through the filter and clarifier, and then is discharged after post-chlorination.

Efficient Combination

As may be seen, this arrangement combined with the old activated plant nicely. The use of a flash mixer and flocculating equipment was required before that of the primary clarifier. The clarifier, rectanglular in shape, was constructed in three separate sections so that each might be operated separately. Also, enough flexibility was supplied to permit the mechanical aerators of the old plant to receive sewage without having had chemical treatment.

Both ferrous and ferric chloride are manufactured by the Scott-Darcy process, which consists of passing a controlled chlorine solution over scrap iron. The success of this process at Oklahoma City and Perry, Oklahoma, encouraged us to give it a try.

Lessons Learned

And so it was that we learned our lessons in this business of sewage treatment. We know a little bit more about good engineering design and a lot about the vital importance of good maintenance.

And finally, if you are interested in learning about the activated sludge process, chemical precipitation, or high-rate filters, drop around sometime and we will show you some good, practical, operating results.

The Water-Works Operator's Six Rules for Coagulation

THERE are six principle factors influencing coagulation for the treatment of water, according to L. C. Billings, superintendent and chief chemist of water and sewage treatment at Dallas, Texas. Studies of these are necessary for the proper selection of chemicals. Although they vary in importance, nevertheless, no single one should be considered all important in the selection of the coagulating agent. In discussing these at the 1943 annual Texas Water Works Short School, he listed them as follows and in order of their importance:

Amount and Character of the Suspended Matter. First in importance, it determines to a large extent how much of a given coagulant is necessary to properly condition the water. Coarse suspensions are easily handled; however, fine suspensions require careful control of alkalinity, pH and similar features. The practical "jar test" still remains as an invaluable guide.

Type of Mixing. Mechanical mixing has been growing in favor in preference to the old and tried "around the end" and "over and under" baffle systems. However, adequate mixing can be obtained by any of these methods and is influenced largely by plant design.

Length of Mixing Period. The first principle is to give water and the chemicals a quick and intimate mix. This should be followed by a quiescent period, merely maintaining movement until a medium sized, tough floc is attained. Large, brittle fluffy flocs of low specific gravity should be avoided. Also watch out for constricted openings forcing the water to flow at high velocities, and work for flexible arrangements. Fifteen to thirty minutes mixing time in summer and thirty to sixty minutes in winter generally are adequate.

Akalinity. Avoid or correct for low alkalinity. Low alkalinity means a water difficult to coagulate and a precipitate that is hard to handle.

Hydrogen Ion Concentration (pH). The pH of the water will often determine the type of coagulant to use, as each coagulant has its best working range. Failure to recognize this fact may result in losing an opportunity to reduce operating costs. Aluminum sulphide works best within a range of 5.5 to 8. Ferric sulphide has a range of approximately 8.5 to 11. Other ferric salts, such as the sulphide and the chloride, work satisfactorily within a range of 5.0 to 11.0, doing their best work to the alkaline side.

Points of Coagulant Application. In cases of difficult coagulation it is often found beneficial to apply coagulants at other points in addition to the usual primary dose. There are limitations in single dosing when turbidities are high. Furthermore, the secondary coagulant must be applied at a point that will give sufficient time for chemical reaction and settling before filtration.

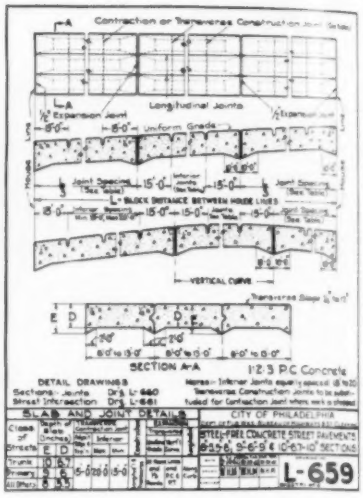
Taxation of Public Housing Projects

THE fact that public housing must be sensitive to emerging tax trends in the municipal economy was stressed by Commissioner Herbert Emmerich of the Federal Public Housing Authority in his recent address before the National Association of Housing Officials:

"Modern urbanism essentially means an environment offering intensive and varied services to citizens. In the past, real estate has borne a disproportionate share of the cost of these services. Tax authorities increasingly assert that ad valorem levies on real estate alone will not support the load, and that real estate taxes based on capital value alone will be revised. The policy of collecting revenue based on ability to pay, will be applied increasingly to the support of urban services. In this trend lies the hope—and sound economic basis—for the rebuilding of our cities and for their proper and integrated extension. In it lies the hope for a concerted approach in city planning and development by municipal bodies and private builders and lenders. Service charges for community services based on ability of the project to pay, should be a methodology in which public housing takes the leadership.

"Public housing cannot pay full property taxes based on physical valuations and yet serve the low-income groups for whom such housing is intended. But I do believe that public housing can no longer ignore the need to make fair payments in lieu of taxes as a contribution for community services received; such payments should be made on a contractual basis. Considerable advance has already been made in this direction by FPHA, as evidenced by its recent determination to encourage as large a payment in lieu of taxes as the incomes of the families housed will permit. The orderly resumption of a sound public housing program depends on finding a formula for contribution to local services fair to the cities and within the ability of the projects to pay."

Concrete Reinforcing Bars for Philadelphia Paving



Above: A view of the construction work in progress. Right: A drawing prepared by the city of Philadelphia showing typical plans and cross-connections for the unreinforced street paving recently installed.

This City's Bureau of Highways Shows How Economical Design Can Be Adopted to a Street Paving Program Where Reinforcing Has Been Eliminated

WHEN a designer eliminates the steel from a proposed paving slab, he must carefully compensate for this by revisions in the depth of concrete. This is excellently illustrated by street paving construction recently completed in Philadelphia, performed to provide access to a housing project in that city.

Last year, when it became evident that asphalt for new street construction would become virtually unobtainable, Dudley T. Corning, Chief of the Bureau of Highway and Street Cleaning, began thinking about this type of unreinforced design.

Economics Involved

If cost were to be no object, Mr. Corning and his engineers would have had no particular problem. However, any good engineer keeps a weather eye out for the economic angle if he is to remain true to his profession. Mr. Corning demonstrated just this trait. The design that his department developed, in connection with the Portland Cement Association, is interesting in its method of compensating for the lack of steel. Normal practice for many years has utilized the "thickened edge" section and has called for added steel wherever a joint is anticipated, whether it provides for expansion or contraction. This type of section was easy to construct and gave excellent service. Strength at the edges was supplied by added concrete, while strength at the ends was provided by the added steel.

Slab Thickness Increased

To compensate for the elimination of steel, the Philadelphia design calls for thickening the ends of the slab, where expansion joints occur, as well as the sides. Thickened sections are not provided at the contraction joints, since the designers felt that sufficient load transfer and strength would be provided by the irregularities in the fractured concrete. This thickened edge extends for ten feet from the face of the expansion joint and tapers in section. The added depth varies from 2½ to 3½ inches, depending upon the class of street where it was to be used.

The Bureau developed three sections for this project. Trunk streets use a design with a 10-6.7-10 inch section; primary streets, carrying traffic slightly less intensive, use a 9-6-9 inch section; while the lightly travelled streets use either an 8-5.5-8 inch or a 7.5-5-7.5 inch section. The pavement in each block has two intermediate expansion joints and a total of six contraction joints. This design is revised where vertical curves are involved, with expansion joints being placed at the point of curvature rather than at the third points. The contraction joints are 1¾ inches in depth and ⅜ inch in width, and filled with plastic joint filler. The expansion joints are ½ inch in width and composed of a non-extruding joint filler.

The paving was laid in three separate lanes, locked to each other by the use of keyed longitudinal joints. The thickened edges involved for these sections are two feet in width.

Buffalo Zones for Spaciousness

NOWHERE in the city of Buffalo, under the terms of a zoning ordinance amendment adopted May 14, 1943, may a multi-family dwelling be erected having less than 1,500 square feet of lot area per family or per apartment (or 1,250 square feet upon the recommendation of the City Planning Commission). As there are 43,560 square feet to an acre, this means a normal maximum of 29 families per net acre; and a 34-family maximum in exceptional cases.

The recent amendment also embodies restrictions, under which one- or two-family residences may be converted into multiple dwellings, provided that the lot or land area involved is at least 1,500 square feet per family or apartment.

New Local Sources of Municipal Revenue

By Hebrert A. Simon

Assistant Professor of Political Science, Illinois Institute of Technology, Chicago

FOR the past decade American cities have been seeking sources of revenue which would materially supplement or partly replace the general property tax. This search was spurred at first by the decline of property tax collections during the depression, later by the spread of homestead exemptions and property tax limits, and in the last two years by the necessity of installing new capital improvements in areas of defense and war activity. Large metropolitan centers have been confronted with a further revenue problem resulting from the growth of the fringes of the metropolitan area at the expense of the central city.

To determine the extent to which cities are meeting success in their attempts to find new locally collected sources of revenue, or to increase revenues from local sources other than the property tax, "The Municipal Year Book" early in 1943 asked each city of more than 10,000 population to report (1) new locally collected revenues developed during 1941 or 1942, and (2) old sources of revenue (other than the general property tax) for which the rates have been increased during 1941 or 1942.

The replies to these questions demonstrate strikingly that cities have been largely unsuccessful in reducing their reliance upon the property tax. Of 883 cities over 10,000 population which replied, 709 reported that they had not developed new sources of revenue during the past two years, and had not increased the rates of existing taxes. Of the remainder, 132 cities reported one or more new sources of revenue, 30 cities reported an increase in one or more revenue rates, and 12 cities reported both a new tax and an increase in an existing rate.

Parking Meters

The new source of revenue most frequently reported was the installation of parking meters. New parking meter revenues were mentioned by 37 cities of more than 25,000 population, and by 33 cities between 10,000 and 25,000 population.* Of course meters were not installed in these cities purely by reason of the anticipated revenue—traffic control was undoubtedly the foremost consideration; nevertheless, the meters are producing very substantial revenues in almost every city where they have been introduced.

Cities of more than 250,000 population which reported new revenues from parking meters included Cincinnati, Ohio; Denver, Colorado; Memphis, Tennessee; Newark, New Jersey; Rochester, New York; and Seattle, Washington. Receipts from this source in 1942 in these cities ranged from $100,000 to $250,000. Cities from 100,000 to 250,000 reporting new meter revenues were Charlotte, North Carolina; San Diego, California; Spokane, Washington; Tacoma, Washington; and Tulsa, Oklahoma—with annual receipts of $25,000 to $100,000. Amarillo, Texas; Columbus, Georgia; Johnstown, Pennsylvania; Lansing, Michigan; Madison, Wisconsin; Mount Vernon, New York; New Rochelle, New York; Schnectady, New York; Springfield, Ohio; and Waterbury, Connecticut—all in the 50,000-to-100,000 group—received revenues averaging around $35,000. The cities in the 25,000-to-50,000 group which reported meters showed revenues generally between $15,000 and $30,000; while the cities in the 10,000-to-25,000 group received $1,000 to $25,000, and in the case of Cheyenne, Wyoming, $36,000. It is not yet clear to what extent these returns will be cut by gasoline and tire rationing, but it may be presumed

* For a more complete study of parking meters in American cities up to February, 1942, see The 1942 Municipal Year Book, page 522. That tabulation lists 110 cities over 10,000 population which introduced parking meters in 1941, and 15 where meters were installed in January, 1942.

The Author's Conclusions

This review of new local sources of municipal revenues is reprinted by permission of the International City Managers' Association from "The Municipal Year Book: 1943." The author points out that the study amply demonstrates that no American city has yet discovered the bonanza which is going to free it from a primary reliance on the property tax, and he adds:

"Cities which have been receiving $30 to $50 per capita each year from the property tax do not find much alleviation of their revenue problems in levies, ranging from 10 cents to a dollar per capita, from miscellaneous sources. When factors other than revenue are taken into consideration, serious questions must be raised as to whether the new sources to which cities have turned have much more to commend them on grounds of tax justice than does the urban property tax. Service charges, utility taxes, amusement taxes, and probably business taxes all rest largely upon the consumer and are generally regarded as regressive in nature—that is, they weigh most heavily on low-income families. Although revenue needs may lead an increasing number of our cities to employ taxes of this kind, it can hardly be argued that any measure of tax reform is accomplished thereby. Furthermore, almost all these taxes have an even greater sensitivity to economic ups and downs than the property tax. . . .

"The status of the urban property tax and municipal borrowing is analyzed in some detail elsewhere in the Year Book. The data presented there indicate that, at the present time, assessed values are generally increasing, with tax rates remaining almost constant. Except for some cities which have become centers of war activity, or which have lost population to war areas, the immediate revenue situation is not favorable. Current interest in new revenue sources must then be generally attributed to the uncertainty which prevails as to what demands for capital expenditures will be made upon cities after the war, and as to the adequacy of the urban real estate tax in the post-war period.

"The data which have been gathered for this article indicate that little progress has been made by our cities in freeing themselves from anticipated problems of divorcing revenues from their property tax base, and that the recourse to other sources is, in the main, more expedient than it is sound."

that 1943 revenues from this source will be greatly reduced.

Business Licenses

New business license fees were adopted, or existing fees increased, in 15 cities over 25,000 population and 10 cities from 10,000 to 25,000 population. Licenses on auctioneers, pawnbrokers, junk dealers, and outdoor parking lots netted Baltimore, Maryland, over $35,000 in the last nine months of 1942; a general revision in charges for licenses, permits, and services in Boston, Massachusetts, is expected to bring an annual increase of $300,000 in these revenues; an increase in liquor licenses in Louisville, Kentucky, will yield $150,000. Other cities which have materially increased their annual revenues from business licenses are Albany, Georgia ($15,000); Augusta, Georgia ($25,000); Berkeley, California ($62,000); Logan, Utah ($12,500); Modesto, California ($23,000); and San Diego, California ($180,000). Several cities imposed taxes on amusement places; Clarksburg, West Virginia, and San Diego, California, levy a fee of 1 cent on each admission, while Anniston, Bessemer, Gadsden, and Tuscaloosa, Alabama, have imposed gross receipts taxes on amusements. The Anniston and Gadsden levies are 10 per cent, Tuscaloosa, 5 per cent, and Bessemer 1 cent on admissions under 15 cents and 2 cents on admissions over 15 cents.

Service Charges

A number of cities have adopted the policy of charging consumers for certain municipal services, or have increased charges already imposed. Of the cities over 25,000, seven reported new systems of fees for refuse-collection service, three reported sewer rentals for out-of-town users, two reported increased water rates, and one imposed charges for outside fire protection. Of the cities from 10,000 to 25,000 population, two imposed trash-removal charges, four, sewer rental charges, and three increased water rates. Anticipated revenues from these sources ranged up to $20,000 in the larger cities, but for the most part, were quite modest. Detroit, Michigan, has realized $389,000 through an increase in fees at the city hospital.

A Youngstown, Ohio, ordinance establishes a fee of 50 cents per month per family for garbage collection. In Glendale, California, the waste-collection charge is applied only to food plants and is based on the volume of waste removed. The Johnstown, Pennsylvania, charge is levied for ash collections. West Palm Beach, Florida, raised $16,329 during the last fiscal year with a fee of three and one-half cents per cubic foot for garbage and trash collections. A garbage-collection charge of 80 cents per cubic yard for wastes in excess of 200 gallons per week is assessed by Kenmore, New York.

Springfield, Missouri, now charges out-of-town users for sewage disposal. The fee is $6.00 per year for residences, and $15 per million gallons of water used for industries. It is estimated that $2,000 will be received during the current fiscal year. Alliance, Ohio, levies a flat charge of three dollars per year against users of its sewage system. The Lancaster, Ohio, sewer rental charge is measured by water consumption—4 cents per hundred cubic feet. Benton Harbor, Michigan, shifted from a flat rate on each household to a graduated rate based on water consumption in order to raise additional funds to build a new sewage disposal plant. It is estimated that $18,000 per year in new revenue will be realized.

Utility Taxes and In-Lieu Payments

New revenues on a somewhat larger scale were being sought from public utilities, whether publicly or privately owned. Transfer of revenues of publicly owned utilities to the general fund netted Logansport, Indiana, $260,000 and Miami, Florida, almost $100,000 in new revenues, while lesser amounts were obtained by Ames, Iowa; Coffeyville, Kansas; East Orange, New Jersey; Fort Collins, Colorado; Riverside, California; and Santa Monica, California. A somewhat larger number of cities imposed on privately owned utilities new taxes or taxes at increased rates. These levies, designated as "gross receipts taxes" or "street use taxes," were in substance franchise taxes, and reflected a determination of these cities to share the improved revenue position of their utilities. Dallas, Texas ($79,000); Galveston, Texas ($54,000); Kansas City, Missouri ($1,130,843); Tacoma, Washington ($31,182); Waco, Texas ($33,000); and Wichita Falls, Texas ($28,800), were among the large cities receiving new revenues from this source. Among cities under 25,000 population, new franchise taxes with annual yields of $5,000 to $12,000 were enacted by Cape Girardeau, Missouri; Highland Park, Texas; Hornell, New York; McAllen, Texas; Richmond Heights, Missouri; Sweetwater, Texas; and Wenatchee, Washington.

To raise the amount of revenue listed above, Kansas City placed a 5 per cent tax on the gross income (except income from industrial users) of the power company and the gas company, a 4 per cent tax on the gross receipts of the telephone company, a 3 per cent tax on bus revenue, and a levy of one mill per passenger on street cars. Wichita Falls expects to raise approximately $28,000 annually from a gross revenue tax of 2 per cent on the electric service company and a 1½ per cent tax against the gross revenues of the gas service company. Dallas placed a 2 per cent tax on the gross income of the Lone Star Gas Company and El Paso added to a 2 per cent gross sales tax against the telephone company an additional 2 per cent franchise tax.

Amusement Taxes

Apparently operating on a "play-while-you-pay" theory, many cities are turning to the pin-ball machine and the "juke box" as sources of revenue. Cities over 25,000 reporting new taxes on amusement devices were Auburn, New York; Cincinnati, Ohio; Milwaukee, Wisconsin; Portland, Oregon; Racine, Wisconsin; Tacoma, Washington; Topeka, Kansas; and Watertown, Massachusetts. In each of the four largest of these cities the reported annual revenue was in the neighborhood of $100,000. Four cities under 25,000 reported amusement machine taxes: Atchison, Kansas; Clairton and Duquesne, Pennsylvania; and Kewanee, Illinois.

In Milwaukee an annual license fee of $200 is levied on the distributor of pin-ball and other similar amusement devices, while a fee of $5 annually is placed upon the distributor of nickel phonographs, soundies, or combinations. A permit fee of $5.00 annually is charged for the right to operate juke boxes or pin-ball machines on one's premises, and an additional fee of $5.00 for each phonograph and $10 for each pin-ball machine operated is placed upon the operator. For the last six months of 1942, Milwaukee received $68,000 from these sources.

In Portland an annual fee of $200 must be paid for the right to operate pin-ball and similar devices, a fee of $100 for permission to handle punchboards, and a semi-annual $10 fee must be paid by the operator for each machine used. For the first six months of 1942, Portland realized $50,000 in revenues from these license fees.

Tacoma levies an annual fee of $250 on each operator of amusement devices and a quarterly fee of $25 on each machine operated. In addition the owner of the premises on which such machines are used must pay a yearly license fee of $7.50. These license fees

brought in over $110,000 in revenues during the last fiscal year.

The smaller cities have confined their fees to an annual license on each machine operated, ranging from $15 to $50 for pin-ball machines and from $10 to $20 for music machines.

Whether to provide a substitute for fast-disappearing gasoline taxes, or to reach a recreation that had been escaping other amusement taxes, several cities imposed new bicycle license taxes. The fee in Kewanee, Illinois, is 50 cents for three years; and in Wilmette, Illinois, and Springfield, Massachusetts, 25 cents per year.

Of a somewhat comparable nature were cigarette taxes adopted by four Alabama cities: Anniston and Gadsden (2 cents per package), and Bessemer and Tuscaloosa (1 cent per package) —yielding revenues from $12,000 to $35,000 a year.

Other Revenue Sources

Noticeable by their absence were reports of revenues obtained from sales and income taxes (except for increased shares of state-collected taxes in some states). None of the smaller cities of the nation appears to have followed the lead of New York in placing a tax on sales within the city, or Philadelphia's plan of collecting a gross income tax on earnings of the city's residents and on non-resident incomes earned in the city. Lack of enabling legislation undoubtedly accounts for the failure to turn to these very productive sources of revenue. Undoubtedly state legislatures will be very reluctant to empower cities to obtain revenues from these sources until the incidence of the taxes, and the possible effect of city levies on state tax collections has been thoroughly examined.

Miscellaneous new revenue sources included licenses to salvage from the city dump, trailer licenses or taxes (San Diego, California, expects to obtain $50,000 per year from this source), Army payments for airport rental, and fees for birth and death certificates.

Library Features Early California Architecture

ARCHITECTURAL characteristics of early California during the colorful period of Mexican control and administration, are embodied in the new library recently completed by the WPA at Fullerton, Calif. The structure replaces the old Carnegie Library dedicated on the same site in 1907.

Built entirely by WPA labor at a total cost, including the furnishings, of $150,000, the building contains 16,000 square feet of floor space in its two stories and basement. It has facilities for 135,000 books, three times the former library's capacity. The Federal Government contributed $80,000 of the cost, and the Library District $70,000.

The structure features a long, red tile roof with a copper-domed cupola, light walls, colored dados, three walled-in patios and high windows which carry out the Mexican design and afford long, unbroken walls for adequate bookshelves. Large, tile-silled, art-glass windows at the ends of the Reading, Reference, and Children's Rooms introduce light, color, and design. Picture inserts in these windows depict, in the Reading Room, the rights of man as protected by the written word; in the Reference Room, the development of science, invention, and transportation; and in the Children's Room, beloved characters from books. All other windows have cathedral glass to admit light but eliminate glare.

A lecture room has a seating capacity of 100 and a fully-equipped stage. A compact kitchen serves this room and also the adjoining staff room. Patios, opening from the Children's and Reference Rooms, are provided for secluded out-door reading.

The heating and ventilating system is designed to admit filtered air of the desired temperature throughout the year. All main rooms where quiet is desired are treated acoustically to absorb sound.

Fullerton's Public Library and Lecture Hall

Periodic Insurance Survey Saves Town $15,000

By LANGDON PROUTY
Member Board of Selectmen
Littleton, Mass.

THE town of Littleton, Mass., has for some years enjoyed the advantages of uniformity, simplicity, low cost, and proper coverage under a schedule plan of fire insurance protection on town-owned property. Following the program initiated by our local agent placing the insurance, a periodic checkup was made by a representative of The Home Insurance Company.

It developed that while building values under the schedule were, in most instances, very well in line with present-day increased cost of construction, the insurance carried on our 59-year-old town hall was shown to be somewhat below the amount required under our reduced rate contribution clause. This building was of brick, with heavy timber frame construction, and some years ago when building costs were lower, we remodelled part of it. Increases in costs of materials and labor led us, in May 1942, to increase this item from $15,000 to $35,000.

In the early morning of March 13, 1943, a fire practically destroyed this building. Both assured and adjusters agreed that the loss amounted to $35,412.29. We were paid $35,000 plus $2,100 for contents. This experience proved to us the sound judgment shown in increasing the coverage on this building, as the increased insurance prevented the town from being a coinsurer under the policy. Another advantage of our schedule is the flexible, continuous protection furnished us under the blanket contents coverage.

As the schedule plan of insurance has one common annual expiration date, we shall have a yearly comparison of property values and amounts of insurance carried. This fire brought home the necessity of a complete, detailed inventory of all contents. We have requested each department head to furnish our Board with an annual statement of personal property under his supervision. This will permit any desirable adjustment in the amount of insurance under each item. Our municipal fire insurance schedule includes the town hall, $35,000; library, $24,000; pumping station, $15,000; three storehouses $1,700; three schools $107,000; total $182,700.

Littleton has a population of 1,700 and is situated in the center of the apple-growing region of Masschusetts. Located about 25 miles northwest of Boston, the town was the sixth Praying Indian town to be settled under the petition made by Rev. John Eliot in May 1654 to the General Court of Massachusetts. It was originally known as Nashobah Plantation, and the name changed to Littleton on November 2, 1714. Littleton made its contribution of minute men during the Revolutionary War, and its whole history is connected with that of the early colonial days of the American Republic.

Our town hall building was erected in 1885, taking two years to construct. Great grandchildren of the mason who laid the cornerstone are residents today. A roll call of family names at a present-day town meeting would greatly resemble that of over a century ago.

At top: Town Hall of Littleton, Mass., when its fire-insurance policy was increased from $20,000 to $35,000. Below: Ten months later.

Topeka's Two Million-Gallon Water Tower

An Overhead Concrete Reservoir Becomes an Attractive and Highly Useful Civic Asset While Answering a Vital War Need

WHEN Topeka, Kansas, decided to build an overhead reservoir, she built one of the most unusual and attractive structures of this type in the country. Completed late in January, it is of monolithic concrete construction and will hold two million gallons; half of this is held 140 feet above ground.

More than an architectural development, the use of the monolithic concrete design made it possible to save a substantial amount of vitally needed steel for war work. Also, more than a municipal improvement, it is the means of Topeka's assistance to the government in protecting and serving important military bases.

Shortcomings in System

Topeka never has had an overhead water storage, depending on direct pressure from the pumps for distribution. This has been an undesirable feature, making it impossible to operate efficiently, and difficult to maintain a constant pressure throughout the distribution system. It further meant that the capacity of the system was rigidly held to the capacity of the pumps, with no reserves available in the event of fire or disaster.

Consequently, when the government decided to locate certain military projects here, engineers soon determined that the water resources were far from equal to this added load. Since the Topeka plant, with its filtration facilities, offered the most feasible source of water, it was decided that a storage tower should be constructed. Even though it was a strictly municipal project, its importance to the war was so great that government officials decided to place it on the same priority basis as the military work in the area.

The design of the tank is unique and interesting. The foundation, extending 30 feet below the ground to bed rock, is 100 feet in diameter and consists of a monolithic reinforced concrete slab five feet thick. Above this base slab are four concentric rings of concrete reaching the surface of the ground. The outside ring is 18 inches in width, and 90 feet in diameter. The inner rings, with smaller diameters, are 8 inches thick. Although not in the original design, it was decided to use this space for ground storage, adding a capacity of one million gallons. Ports were located in the cylindrical walls to insure water circulation so that it will not become stagnant.

Topeka's two million gallon concrete reservoir; 150 feet high, 2 million gallons in the upper chamber and one million gallons in the base.

The supporting slab at the ground level is a reinforced concrete floor 30 inches thick. On this floor are set four more concentric rings 120 feet in length to support the overhead storage tank. Both structural rigidity and added beauty were incorporated into the outside ring by 7-foot semi-circular grooves running perpendicularly in the exterior wall.

This superstructure supports a million gallon overhead concrete tank which supplies the pressure storage. This cylinder, 27 feet high and 90 feet in diameter, is purposely separated from the rest of the tank to minimize temperature stresses and possible cracking. The supporting floor was finished carefully and covered with a thick layer of tar paper. The inside of the tank, including the floor and walls, were waterproofed by an asphalt membrane to prevent leaking. The tank is sealed at the top by a 6-inch monolithic concrete slab. All access to the foundation and to the tank is through the center cylinder by means of a steel ladder extending from the floor at the ground level for 120 feet and then through the tank proper to the roof.

The 18-inch Ross Double Acting Altitude Valve controlling this tank permits water to flow into it and closes to prevent overflow. After the valve has closed and the head on the distribution side of the valve rises to a point 3 to 12 inches under the static head of the full tank, the valve opens to permit reversal of flow from the tank to the distribution system. The regulating valve is placed inside the building on the ground floor.

Architectural Features

The tower is interesting from an architectural standpoint. Located adjacent to the business district, it blends with the buildings of the city, and, with the exception of a few locations where one can view it from top to bottom, it is difficult to distinguish from another large building. The sixteen grooves or bays in the exterior walls add to its attractiveness by forming

shadows of different widths in the sunshine. When looking at it from a fixed point of view, one can observe the width of shadows continually changing. The tower is protected from sabotage by a high wire fence and protective lighting. A floodlight is located in each bay at the ground level. For the duration of the war, these lights are turned to light the grounds. After the war they will be reversed to light the structure.

This tank represents the realization of one of the important aims of Lloyd B. Smith, Topeka's veteran water commissioner. When he took office, the water department was inefficient, with limited reserve capacity, and was financially in the "red." By sound engineering and good business principles, he has developed it so that it takes water from the muddy Kansas River, clarifies and softens it until it attains its present high degree of purity and favorable characteristics. He piloted the water department to a debt-free status with the last bonds being paid off on January, 1941. The average monthly receipts of the department have increased from $18,000 fifteen years ago, to $30,000 today.

Distribution System

Topeka's distribution system consists of approximately 315 miles of pipe and serves more than 18,500 connections inside the city, as well as 3,000 outside. The daily consumption has averaged four million gallons, with ten million gallons as a peak demand. The average per capita consumption has been the unusually low figure of 60 gallons per day.

The water department started as a private concern with one pump back in 1881. As a matter of fact, the first plant is still in use as an office and storage building. The original supply was from wells and served continuously until 1922, when the present water softening and treating plant was constructed, using the Kansas River as the supply.

Meter Maintenance

Among the developments made by Commissioner Smith, is a modern and careful system of meter maintenance. Initiated in 1936, department officials decided to take advantage of an opportunity to repair service lines and meters without cost to the property owners. Since 1936, from 1,500 to 2,000 meters per year—or approximately half the meters in operation—have been removed from basement installations for inspection. Mr. Smith estimates that all meters will have been inspected by 1946 and the continuing program will be one of maintenance. By thorough measures such as this, the water department has been able to account for the high figure of 80 to 85 per cent of the water used.

An interesting sidelight on the construction of the concrete reservoir is the spirited assistance given by citizens in the city. At one time it appeared that labor shortage would halt this essential construction. To meet this need, civilians from all branches of life came to assist. College students, shopmen, packing house workers, city employees, street railway men, city firemen, and many others all volunteered their help to keep this important project moving. Consequently, it has been nicknamed by many as the "People's Tower."

The design of the structure was under the joint supervision of R. A. Finney, consulting engineer, and T. R. Griest, consulting architect.

Meter-Reading Time Savers

HERE are some practical methods of setting your meter reading department in order, not only for the duration but for the post-war period that follows. They were outlined by Egmont S. Smith, District Manager, Neptune Meter Company at Dallas, Texas, at the Arkansas Water and Sewerage Conference.

Route your meter reading books to reach all customers in the shortest travel time. This is the first consideration in a system of any size.

Train alternate or substitute meter readers. In large systems, train men or women employees who are not regular meter readers for emergency service. No system is so small that it can afford the luxury of a lone meter reader with no one else available as an alternate.

Use loose-leaf notebooks arranged so that the sheets are reversible. Carry the name and address of the customer at the *bottom* of the page and make your entries from the bottom to the top. This makes it easy to subtract the last reading from the current one and ascertain the consumption.

Make your entries in hundreds of gallons. Do not clutter up your book with unnecessary ciphers. On the customer bills, print the two ciphers in the proper location.

If you are not already using some form of machine billing, give it serious consideration. Water departments with no more than 2,000 customers find that they make definite savings with this equipment. A one cent post card will carry all the information that you want, including an arrangement for the stub. Do *not* "dun" for overdue bills by post card unless you want to tangle with the postal authorities.

Adopt a firm policy of requiring prompt payment by impartially shutting off the water service when accounts are overdue. Give your delinquent customers no more than 12 to 15 days of grace after the final payment date. One or two notices in this period, either by letter or telephone, should be ample warning. Payment of this small bill is no hardship, and laxity in collections is neither a humanitarian gesture or good political policy.

Stagger your meter reading and billing to avoid rushes in accounting. A small town may be separated into two districts, thereby allowing you to read and bill the first in the middle of the month and the other at the end. Around 20 districts seem to be the largest number that can be handled. As a war measure, try reading the meters and billing every other month or estimate the intermediate bills. You will find the customers ready to cooperate.

Be sure your meter is well located and has a good meter box.

Use registers of the round-reading type. They can be read more quickly and with less errors than the straight-reading register.

Accurate Water-Works Records

WATER works officials at Milton, Mass., plan to know the absolute location of every service gate box in their entire system under a new program of revising records.

This consists of relocating and making new ties to services and gate boxes, located between the water main and the building. Many of these were located years ago and the old ties have entirely disappeared.

All the old, as well as the new, records are being plotted to be bound in book form. There are about 6,000 of such locations to do in all, according to Forrest J. Maynard, town engineer.

Electric Service Where It Is Hard to Get

Municipally-Operated Diesel Power Meets a Growing Load at Wrangell, Alaska

NORMALLY, a city studying the problem of municipally generated electricity, must balance the cost of power from its own plant against that furnished by an outside source. However, this type of problem did not face Wrangell, Alaska, when officials decided to produce their own power. Here it was municipal electricity or nothing.

This northern community, with a population of some 1,200 people, is located down the Alaskan coast in that narrow "panhandle" district bordering Canada. It is on an island about 850 miles north of Seattle and is served solely by water commerce; fishing is the principal industry. There are not over 15 miles of highway in the entire area. There are no connecting roads leading to any adjoining towns. Railroad service is non-existent.

One often wonders why tourists hunting for spots with natural beauty have overlooked this area. Located at the base of the Alaskan Coastal Range Mountains, it matches the rugged color of the internationally famous Norwegian fiords. Many people, accustomed to thinking of Alaska as a polar outpost, will be astounded to learn that the weather here is less severe than on many parts of the continental United States.

Wrangell started furnishing electricity as a municipal operation in 1929. Previous to that, power had been generated as a by-product of a local lumber mill, by burning wood wastes in a steam plant. When this type of service proved uneconomical, the town was faced with the loss of electricity.

The community's first effort was to try operating the old steam plant. However, this soon proved impractical because of the inefficiency of the existing equipment. Consequently, they decided to rehabilitate the plant by using diesel power. Limited finances made it necessary for officials to plan their development carefully, and consequently they purchased a second-hand 200-hp Fairbanks-Morse engine, with a directly connected alternator, as their first unit.

In 1931 this construction was followed by the installation of a second unit of 120-hp capacity, and as the load increased along with the confidence of the officials, the plant was further augmented by the purchase of a new 350-hp unit. The entire plant was housed in a new fireproof building completed by 1935.

Many municipal plant operators will envy the simplicity of the plant at Wrangell. No air filters are required; the heavy rainfall in this area so clarifies the air that they are not necessary. Silencers are not used either, pit exhausts being used in their place. The cooling tower has also been eliminated; the operators have built a common hot well, with an automatic cold water intake, for both the diesel engines and the circulating water pumps. By this method they are able to keep the incoming water at 110° and the outgoing at 100° F.

The generators consist of one Westinghouse 200 kva, two Fairbanks-Morse 90 kva, and 294 kva respectively. A Westinghouse frequency relay connected to a battery system sounds alarm warnings, if units overspeed or slow down excessively, and is set for a range of five cycles. Other alarm contacts connect to gages of all circulating water pumps, guarding against the possibility of the water pump's failure or the system's being plugged.

Rates in Wrangell appear high, when compared with similar service throughout the United States, but are very fair considering the difficulties in constructing and maintaining the service. Residential rate start at 10 cents for the first 34 kwhr, drop to 8 cents for the next 35, 5 cents for the next 30, and 3 cents for kwhr in excess of this. Power rates range from 5 cents to 2½ cents. A 10 per cent discount is authorized on all accounts within the town limits if the bills are paid by the 10th of the month. Domestic bills have a minimum monthly charge of $2.00.

The plant furnishes light and power for three salmon canneries and for Wrangell Institute, an Indian school operating under the Department of Interior. It has never had an interruption in service; is entirely out of debt; and has established a reserve found of over $7,500 in the form of War Bonds.

Town officials have not felt it necessary to employ any extra precautionary measure of defense beyond that of a good local home guard. Wrangell, located as it is on the Pacific coast, already is under strict supervision by the Coast Guard and the Army. The most direct result of the war has been reflected in a steadily rising cost of fuel oil.

How the municipal electric plant at Wranell, Alaska, looks after a moderate snowfall.

Buying Lubricating Oils

PICTURES BY COURTESY OF THE TIDE WATER ASSOCIATED OIL COMPANY

THE first requirement of any specification is that it be drawn by impartial experts in the field of the material or machine to be purchased. A smattering of knowledge is not enough, for specification requirements are walls which may shut out not only inferior products, but the best products as well.

Specifications for lubricating oils are a case in point. There is a staggering amount of knowledge and practical progress in this field. The tests set forth in the A. S. T. M. Standards on Petroleum Products and Lubricants will be found helpful in evaluating lubricants. However, there have been developed during the last few years new lubricating oils, known as additive type, which cannot be evaluated satisfactorily by conventional tests.

What is wanted of a lubricant often appears simple: it must lubricate. The main function is that of a cooling agent as well. It often must resist combination with air and with water, stay fluid when cold, not thin out excessively when hot, have long life if used repeatedly, and high lubricity when used sparingly.

The more complicated the specification, the more exclusive it is likely to be. A specification for fresh vegetables can be brief: you merely specify that they be fresh. A specification for a lubricating oil of a certain viscosity, pour point, minimum flash, and cleanliness is scientific; to require other tests than these may prevent competition, or may be worse than useless, unless the buyer has a thoroughly experienced oil chemist to interpret the relation of his own requirements to the elaborated oil specifications. If the right lubricant at a fair price is desired, beware of "closed" specifications.

Viscosity

The first job of a lubricating oil is to keep rubbing surfaces away from each other. The viscosity of the oil must be sufficiently high to permit the formation of a load supporting oil film under the prevailing conditions of load and speed. The viscosity of the oil at the operating temperature is the property which determines the bearing friction and consequently the heat or waste and wear. Too low viscosity permits greater leakage and waste of oil, but low enough viscosity means a saving in fuel. Too high viscosity generates excessive fluid friction and heat and retards the flow of oil into the clearance.

Now having specified the proper viscosity, what must the city do to determine that the oils submitted are actually of that viscosity? Ten years ago the city had to have available, in its own laboratory or in a commercial laboratory, a Saybolt Universal Viscosimeter, showing in Saybolt seconds the time required for 60 cubic centimeters of oil under an arbitrary head to flow through a standardized orifice at stated constant temperature. Now, however, all oil companies have strict methods of inspection and test to produce correct viscosity requirement.

Pour Point

Of a certain significance, though of far less practical importance than the viscosity, is the pour point, or lowest temperature at which the oil will pour or flow in a certain standard container when chilled. Since this is a laboratory test and made in a small container, the pour test called for in the specification can actually be 10 to 15 degrees lower than the lowest anticipated temperature at which oil is to be used. For example, if the lowest temperature at which the oil is to be used is +10°F a satisfactory pour test would be 20 to 25°F. Specify lowest temperature at which you expect oil to be used. It is a laboratory and not a service test, but it does add to the specification a requirement which insures that lubricants will flow at the temperature met in service. Care must be taken to specify a pour point requirement not too much below the lowest to which the oil will actually be subjected. Otherwise the specifications will become restrictive. The test is made with a glass jar, a special thermometer, and a means of controlling chilling. Correctly

made, this test has a definite value and is used all the time by the oil industry.

Flash Point

The flash point, or lowest temperature at which the vapor arising from an oil will ignite when in contact with a flame, is the third specification requirement that has some justification: (1) as indicating a possible fire hazard, and (2) as a check against the use for blending purposes of highly volatile, low flashpoint oils which produce heavy evaporation losses. Inasmuch as a light oil and a very heavy oil can be mixed to give the same viscosity as a close-cut oil, the viscosity specification alone is insufficient to assure obtaining quality. However, judgment must be used in flash specifications to avoid setting them so high as to be restrictive.

A test cup of oil is heated at not more than 30 degrees F per minute and slowed to 9 to 11 degrees per minute for at least the last 50 degrees before the presumable flash point is reached, as determined by passing a standardized lighted taper over the cup at each 5-degree point as the temperature rises. The temperature at which vapor is first ignited is termed the flash point.

Cleanliness

Color does not necessarily indicate the degree of refinement, the viscosity, or the quality. Cleanliness is an important factor, and in the case of the lighter colored oils (not oils on the order of steam cylinder oils) it can be judged sufficiently by holding a specimen up to the light. Transparency is a sufficient test.

The foregoing requirements are seen to be reasonable, and concurrence with them can be determined by simple tests. For steam turbine oil, resistance to emulsion and oxidation stability are the principal qualities and equal in importance to viscosity. Diesel oils call for special consideration, often depending on the type of diesel, its size, speed, and oil capacity. The fact is, however, that unless a city operates a laboratory, it is better practice to stick to the fundamentals and use in the specifications some such clause as: "This oil shall be satisfactory for the service for which it is offered." Specifications which require a "straight" mineral oil prevent the use of the newer types of additive oils—a big story in themselves—which may react to the disadvantage of the purchaser.

"For lubricating oils," says that A. S. T. M. Committee, "viscosity is the most important single factor." The use of S. A. E. (Society of Automotive Engineers) numbers has been regarded as a sound method of classifying lubricating oils, and these numbers are based on the viscosity of the oil only and bear no reference to quality. Recent advances in technology have relegated viscosity to comparative insignificance as a single yardstick of quality. It was always possible for the refiner to mix a 30 and 50, or even a 10 and a 70, to obtain a 40; indeed, kerosene mixed with a very heavy oil would do it. Only when expressed in terms of rate of change of viscosity with temperature, and in conjunction with other key physical characteristics, does it serve as a measure of quality. Refining processes are very different from those of a few years ago. Modern methods of refining have done much to improve the engine oils of today.

Manufacturers' Brands

New processes of manufacturing were made possible by intensive research, engineering, and experience on the part of the manufacturer. Few specification writers outside the oil industry can hope to keep pace with this movement. Consequently, the writing of oil specifications to insure proper quality has become extremely involved. The trend is toward approval of brand based on performance. All refiners are extremely jealous of their "house" brands, and oils purchased under these brand names will invariably be found to comply with the guaranteed specifications which may be obtained from the company supplying the oil. This is, of course, to be expected, as an oil company must of necessity depend upon repeat sales, and any slackening in vigilance may result in the loss of business difficult to regain, particularly in the normally highly competitive state of the industry. In the case of plant and industrial lubricating oils, the situation is somewhat different; although here again all the larger refiners have their trademarked brands, the quality of which is guarded jealously. Specifications are important to the refiner to insure *uniformity*. They are important to the purchaser only to the extent that they assure the product fitting the machine to be lubricated. They will not, however, indicate how well or how long a particular lubricant will work satisfactorily.

Simplify

How then should a city purchase oil, if all but the most carefully selected specifications have little final meaning? First, it is well to bear in mind that the city's specification removes from the refiner responsibility for performance; whereas on the other hand the refiner's recommendation places on him responsibility for performance. Therefore, it is well worth while to write to the oil companies for their best recommendations of what oils and greases to use on various units. At least one oil company, and probably others, has organized its recommendations into comparatively few types, suiting specific applications on locations. An increasing number of municipal departments, as well as industrial plants, are finding that fewer products will conserve bookkeeping, storage space, and dispensing equipment, while doing the lubricating job satisfactorily.

Tax Filing System of Ilion, N. Y.

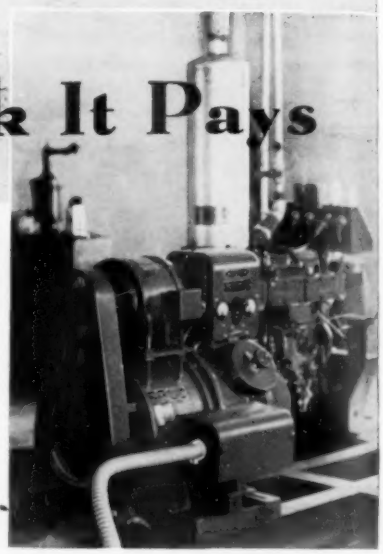
ILION'S new tax record system gathers within a single Kardex pocket an 18-year tax picture of each piece of property.

The filing of the record is chronological by number, rather than by owner's names, so that the record is now in agreement with the tax roll itself, with no possibility of overlooking any properties in the collection of taxes. Street numbers are permanently assigned so that the file arrangement is not disturbed when property changes hands.

Many hours are saved by the public and our clerical staff in determining whether or not taxes have been paid on particular properties. Knowing only the location and number, it is a matter of seconds to refer to the proper Kardex pocket and to have instant access to an 18-year record of taxes. Under the old system, which was filed alphabetically, hours could be consumed in searches and in rearranging files when ownership changed.

ROY W. BENNETT,
Village Clerk.

So You Don't Think It Pays



Above: Notice the interesting plant arrangement that places the office and laboratory between the two digestion tanks. Right: This small Buda engine-generator can derive its power either from digester gas or gasoline.

The Well-Designed, Little Sewage-Treatment Plant at Winnemucca, Nevada, Taches Some Lessons on How to Use Sludge Gas for Power Profitably

By HENRY P. BERK
Superintendent

IF YOU are looking for an example of a small sewage-treatment plant using sludge gas for power, take a trip out to the northwest corner of Nevada sometime, and stop off at the city of Winnemucca.

To the west is the Black Rock Desert, to the north are the Santa Rosa Mountains, to the east are the Independent Mountains, and to the south is the Humbolt Range. The city itself is on the sluggish Humbolt River, supposedly the crookedest in the world. Our plant serves only 2,000 people, and we use sludge gas to generate power, because it's the cheapest way to operate.

Of course, that doesn't mean that every little sewage-treatment plant should rush off and buy a 200-hp engine and expect to start producing enough kilowatts to light the whole town. As our good friend and consulting engineer out in San Francisco, Clyde C. Kennedy, so often says, every situation is different. In our case, by the time we have shipped kilowatts across all those mountain ranges, we have run into a pretty heavy freight bill; and power generated from a little gas engine does not have so much difficulty competing with the high lines.

Original System

Our original sewer system was built at a cost of $14,000. This was raised by a bond issue that carried by only a few votes. Old-timers remember how bitter the contest was, with the least of it concerned with remarks that some people in town just couldn't get used to modern conveniences. The system served about 1,000 people and had a septic tank for disposal. As the community grew, sewer lines were extended; and in 1923 the north section was sewered at a cost of $3,500, including another septic tank.

When our population rose to 2,500, the main septic tank lacked capacity to carry the load, and raw sewage flowed into the Humbolt River. Our State Board of Health objected to its use and recommended a modern sewage-treatment plant. As a result, in 1941 the city voted by a heavy majority to build such a plant as a WPA project. The arrangement called for the WPA to furnish $20,500 in labor and $4,500 in material. The balance, including skilled labor of which WPA had none, was to be furnished by the city—making a total contribution of about $30,000. Mechanical equipment ran to about $21,000, and labor furnished by the community cost just under $9,000.

Present Plant

The plant consists of an operating room for the bar screen, a sewage pit and pump pit underground, and a Dorr clariflocculator 30 feet in diameter and 9 feet deep from which the effluent flows directly into the Humbolt River. The sludge is digested in a multidigestion system which uses two 20 feet diameter tanks with gas storage on the

secondary. A Barnes sludge pump delivers the digested sludge to four drying beds for final disposal.

Two three-inch Fairbanks Morse trash pumps and 3-hp motors were originally installed to deliver the sewage to the system. However, because of leaky sewer lines, the flow increased during high water so much that we found that they lacked capacity. Consequently, we replaced them with four-inch pumps and five hp motors.

The power unit as installed consists of a 20-hp Buda engine driving a 12.5 kva Electric Machinery 120-208 volt, 3 phase, 4 wire, 60 cycle generator. The engine is provided with a dual carburetor to use either sewage gas or gasoline for fuel. The engine and generator are set on a "T" shaped base with the generator on the stem and the engine offset, driving the generator through "V" belts. The other side of the "T" head provides a base for the future installation of a similar engine as a standby drive for the same generator by just switching the "V" belts.

The generator furnishes all of the power required at the plant in operating the sewage pumps, sludge pumps, flocculator, and lights. The engine is provided with an exhaust waterjacket, and the water from the engine and jacket is used to heat the digestion tank.

At present there is not enough sludge gas to operate the engine continuously, so Mr. Kennedys' provision for alternate operation with gasoline has enabled us to keep the plant operating on home produced power. The plant is designed to serve a population of 5,000. One of these days Winnemucca will grow up to fit its sewage-treatment plant. When that day comes, the gas alone will furnish enough power to handle all our pumping requirements.

Attractive Design

We are particularly proud of the attractive plant design. The main building houses a laboratory and sludge pumps. It is wedged between the two digesters to make an attractive, compact design. The digesters are constructed with prestressed, reinforced concrete and have a gunite surfacing.

When we put the plant into operation, we did not have to go through the usual period of waiting for the septic tanks to "season." The new plant was constructed close to the old septic tank, and we were able to fill the digesters with seeded sludge at the start. We had full production of sewage gas in six weeks time.

Regarding operation, I admit that it would be nice to have shifts of operators in attendance all the time; and if we were so staffed with high-priced technicians, I imagine that we would improve the efficiency of the plant; but it is a little hard to justify such fine-toothed performance when we just dump the final product into the river.

Officials at Winnemucca examine the Dorr Clariflocculator used in this installation.

Automatic Features

Our plant, with its clariflocculators and multidigestion system, its trash pumps and power generator, is about as automatic as a process can be that uses Mother Nature as a helper. We keep no regular attendant at the plant. It receives service twice daily, and more often if necessary. We have several safety devices to stop the motor in case of overheating or loss of crank case oil. The trash pumps are automically controlled.

It is equally hard to give concrete evidence of results in any sewage-treatment plant, but we will do the best we can to show what ours is doing. We don't run enough tests to offer figures that would be convincing, but the effluent passes muster with our hard-boiled State Board of Health; and its engineers have paid us some much appreciated compliments on the plant in general—a great contrast to the remarks they used to make about the overloaded septic tanks.

As a final word to back up the operating efficiency of our plant, let me say again what I said at the start. come out this way some time and pay us a visit. We feel that you will find it worth while.

Sewage Works Federation Lays Annual Conference Plans

HERE is the way the national conference for the Federation of Sewage Works Associations is now shaping up. To be held in Chicago October 21 to 23, preliminary plans already have been announced by F. W. Gilcreas, chairman of the program committee.

Priorities

A. M. Rawn who obtained a leave of absence from the security of the Los Angeles Sanitary Districts to wrestle with priority problems relating to sewerage and sanitation, will define priority procedures. Mr. Rawn will explain the details of making applications for ratings, and will answer specific questions.

Of interest to municipal operators will be the personnel, maintenance, and operating experiences under present conditions outlined by a group representing all sections of the country. Post-war developments will be discussed by Morris M. Cohn, Editor of *Sewage Works Engineering*, assisted by representatives of municipalities, states, consulting firms, and manufacturers.

Round Table

The conference will include an "Operators' Round Table" sponsored by the Central States Sewage Works Association that is acting as host for the national group.

Significant discussions also are planned covering sewage disposal practices in army camps, and the handling of industrial wastes under emergency conditions.

About . . .
Kitchen Ground Garbage

And Its Effects on a Sewage Works

By Henry W. Taylor

SEVERAL articles have appeared on this page in previous issues, relating to the disposal of ground garbage when delivered directly to the sewage sludge digestion tanks. However, the discharge from the kitchen grinder—growing in popularity before the war, but now a priorities casualty—presents a different problem.

This finely ground organic material becomes a component part of the municipal sewage, and introduces new and interesting developments. Municipal engineers are watching the increased use of the kitchen grinder and in some cases are fearful of the new load which will ultimately be imposed upon the treatment processes because of the increased organic content of the sewage.

This discussion excludes consideration of the various opinions as to the best method of introducing ground garbage into a sewage-treatment plant. The kitchen grinder is in growing demand and the problems resulting from its increased use are worthy of analysis for the purpose of discounting unwarranted fears and prejudices, and of anticipating future sewage works complications.

Sewage-Garbage Sludge

The introduction of additional settling solids into sewage will, of course, increase the amount of raw sludge and, if the practice of kitchen grinding became popular, would require additional sludge digestion capacity. As sludge digestion tanks are separate from the other structures of a plant and represent a separate process, enlargement of digestive capacity is a less serious problem than adjusting a secondary treatment to a new load condition.

The added sludge will produce increased sludge gas volume and tend to accelerate the speed of digestion. If all the garbage tributary to the sewer system were delivered to the sewage works, the sludge gas would be at least doubled, as an average throughout the year. The sewage-garbage sludge gas digestion has, however, about the same seasonal variations as sewage sludge gas alone.

If kitchen garbage grinding were extensively practiced, this additional gas would, in the general case, produce enough power to serve such supplementary treatment process as would be required to introduce corrective measures for the increased BOD. Increased gas production has, in many cases, the added merit of so increasing the total gas production as to render gas utilization practicable; whereas the gas from sewage sludge alone would not justify the installation of equipment for power production.

If kitchen grinding of garbage will become noticeably prevalent in your community, what effect will this added organic load have on sewage works operation? This question has arisen in the minds of municipal engineers. Discussion of the main factors involved is included in the succeeding article on this page.

On the other hand, the ground garbage will lower the pH of the combined sludge and may introduce additional lime conditioning of the sludge.

Increased BOD

The additional organic matter reaching the sewers and sewage works will increase the BOD to be rectified by the sewage works. The extent to which the sewage BOD will be affected is a matter of varying opinions and estimates range from 15 to 30 per cent. Two definite statements may be made in this regard: the BOD will be increased; however, the organic matter producing this additional BOD is of a character which is more readily oxydized than many other types of organic load.

In the case of a treatment plant which includes preliminary treatment only and where the stream receiving the settling effluent is not able to support a further organic load, the necessary correction of the BOD condition might be supplied by post-aeration. If the garbage load reflected a considerable use of kitchen grinders, the power from the additional gas would be adequate to provide power for the aeration process. If aeration were properly applied, a resulting coagulation would warrant, in the general case, a resettlement for a short period, and would reduce the suspended solids content and the BOD in the final effluent to its approximate former value.

Where the sewage works includes secondary treatment these processes, in the general case, would require protection against a materially increased load. The introduction of aeration would equally apply to this case. Each sewage works will dictate the best method to be utilized to compensate for the additional organic load.

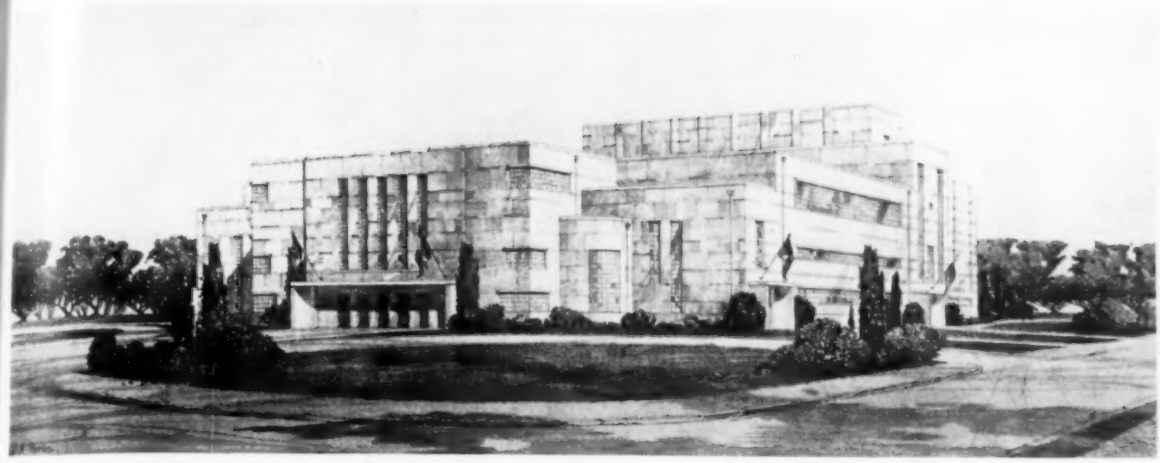
Will Develop Gradually

This garbage increment will not present itself as a full fledged increment overnight. It will, on the contrary, develop gradually and if its progress is anticipated, the resulting problems will not suddenly complicate sewage works operation. In large measures, it is also a daytime activity and is subject to corrective measures during a part-day period, except where trunk sewers are extensive and sewage delivery is seriously delayed. Probably the critical period in the development of kitchen garbage grinding will occur when the delivery is so small that this additional treatment seems unjustified.

However, in case post-aeration were planned as a corrective measure, its addition, prematurely, would be an asset to the primary effluent. Additional sludge capacity demands, in this same critical period, may also lead to indecision as to whether additional tank capacity should be added then or later.

Funds for the installations required by ground garbage will be involved to a minor extent. The saving in garbage collection and disposal costs, which would tend to balance new costs at the sewage works, is a matter that is necessarily determined by local conditions.

The next article will discuss design factors covering sludge lines, added sludge capacity, and aeration.



Architects' Sketch of Norfolk's New Community Building

Norfolk's Army and Navy Recreation Building Will Become Peacetime Community Center

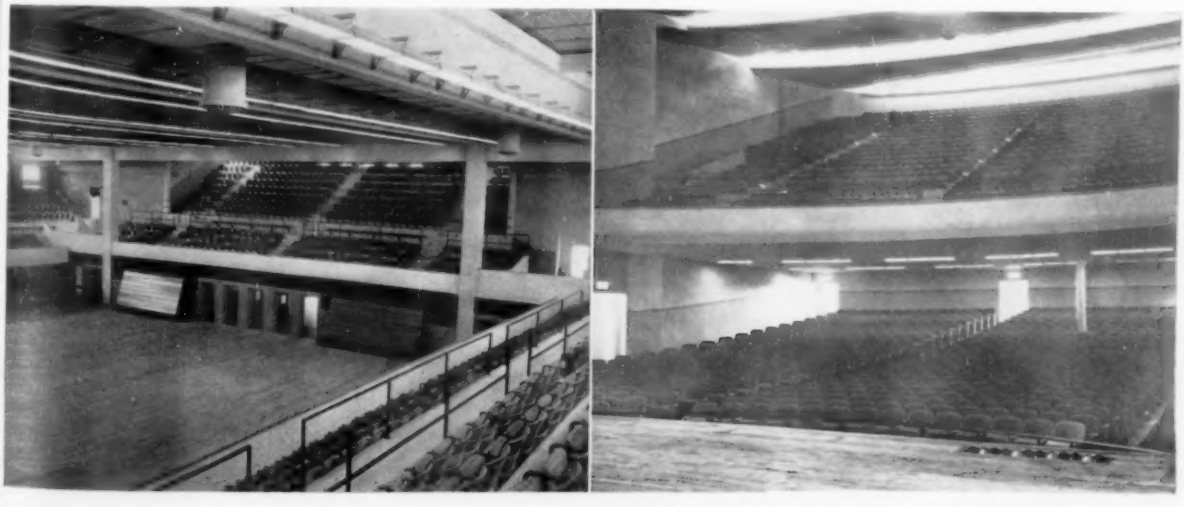
IT IS most appropriate for Norfolk, Va., which is participating extensively in the war, to be building a new Army and Navy Recreation Building. This fine structure, to be completed this month, will occupy, with its access ways and landscaping, an entire block on Mowbray Arch near Ninth and Granby Streets, flanked by parking areas soon to be developed. It will be one of the largest structures of its kind in the nation—a tribute to the cooperative action of local citizens, organizations, officials, and the Federal Government.

Leading in the undertaking were Colonel Charles B. Borland, City Manager of Norfolk; R. D. Cooke, chairman of the joint United Service Organizations Committee; Congressman Winder R. Harris; and members of the boards and executive committees of the Association of Commerce and the affiliated Norfolk Advertising Board.

The building is of modern and functional design, utilizing reinforced concrete as the principal structural material, the exterior faced with Indiana limestone. The U. S. Army Engineers, together with the consolidated Norfolk construction firm of R. R. Richardson Company & Associates, are engaged in erecting the building. The plans were drawn by Clarence A. Neff and T. David Fitz-Gibbon, Norfolk architects who were associated for this undertaking.

Arena and Auditorium

Under one roof and on one general foundation are included, with other appointments and facilities, a large arena and a theater-type auditorium, structurally sound and architecturally beau-



Interiors of the Arena and Auditorium, Norfolk Community Building

tiful in proportions and detail, to serve in wartime as a recreation center for service men and in peacetime as a community center for athletic events, exhibitions, concerts, plays, and conventions.

The arena, designed for roller skating and dancing, as well as for sports events and exhibitions, will have a floor-stage space 100 feet square and 4,899 seats, of which 3,152 will be on the main floor and the rest in galleries.

The auditorium, with its own separate stage, will have a seating capacity of 1,902.

A joint federal and municipal project, the recreation center-auditorium is being built at a cost of approximately $800,000. Of this amount the Federal Government is furnishing $280,000, and the city of Norfolk $420,000, together with the site, valued at $75,000. The city retains title to the property, but has leased the site and the improvements for the duration of the war to the War Department without charge therefor.

To Meet Post-War Needs

The Federal Government had originally planned to erect a temporary building in Norfolk to serve merely as a recreation center for service men during the war, and to that end allocated $280,000 of the Lanham Act fund. The city, however, saw the opportunity of acquiring what it had long desired—a concert auditorium and convention center—and proposed the erection of a building that would serve a permanent need, as well as meet wartime requirements.

In May an order from Washington stopped work on the project because of the shortage of structural steel, called for in the contract. However, persistent effort overcame this obstacle, through a revision of the plans, under which reinforced concrete was substituted.

Milwaukee Plans Post-War Pay-As-You-Go Projects

A SCHEDULE of the first year's projects in a six-year program of public works was approved by the Common Council of the city of Milwaukee on June 2, 1943. The amount involved for this first year is $3,540,906.

Here is the story, in brief, of Milwaukee's pre-war and wartime preparedness for post-war progress:

AS far back as 1913 Milwaukee was a pioneer in the fields of physical and financial planning. Milwaukee is once again a pioneer, with its long-term improvement program technical committee, its technical committee on tax planning and correlation, its permanent improvement fund, its public debt amortization fund, its master city plan and lake front planning agencies, its new up-to-date city budget law, its post-war urban rehabilitation and redevelopment plans, its studies for post-war revival of the municipal harbor shipping and waterborne traffic, its delinquent tax reserves, etc.

These progressive plans are due to the harmonious cooperation between the Common Council, Mayor-on-Leave Carl F. Zeidler, Acting Mayor John L. Bohn, City Comptroller William H. Wendt, City Treasurer Joseph J. Krueger, City Attorney Walter J. Mattison, and all important appointive officials and technical civil servants.

The Long-Term Improvement Program Technical Committee, created by the Common Council in June 1941, now has a list of over $80,000,000 of possible projects for post-war construction. This does *not* mean that the program now includes all these projects. It simply means that the proposed program for 6 years, which will be wholly city financed, will be selected from the eighty millions worth of *suggested* projects. The committee's task is to sift these projects, make estimates of cost, and determine priorities in construction. Present estimates call for an annual average of somewhat more than $3,500,000 for the next six years. In other words, the $80,000,000 of proposed projects will have to be reduced to less than one-third for that period, if the city is to finance its entire post-war program out of its own funds. If the Federal Government initiates a huge post-war program, additional projects may be included on the basis of federal grants; but this is a question for the future.

The types of projects include sewers, streets, alley openings, playgrounds, electrical installations, land purchases, bridge construction, outer drive and lake front development, street widenings, grade separations at railroad crossings, new public buildings to serve public works facilities, traffic installations, new fire, police, library, museum facilities, etc. etc.

Chronology of Financial and Physical Planning

Milwaukee's pioneer efforts in physical and financial planning are indicated in the following tabulation:

1913. Tax readjustment law passed
1915. First city budget law passed
1916. School Board construction program
1923. *Amortization fund established to liquidate the city's debt*
1923. Second School Board construction program
1924. Playground construction pragram
1928. Playground construction program
1930. Major thoroughfare plan adopted
1932. *Last year that bonds were issued by the city*
1933. Current expenditure placed entirely on cash basis
1933. National Industrial Recovery Act Projects
1935. $4,000,000 of work relief projects
1936. *Seven-year construction program*
This was Milwaukee's first long-term public works program. The great bulk of the program was carried out during the depression years of the 1930's
1936. *Establishment of the Permanent Improvement Fund*
This is the fund which will finance the city's post-war program. Note that it was established as far back as 1936.
1937. Playground Construction Program
1941. *Creation of Long-Term Improvement Program Technical Committee*
This committee is preparing the post-war public works program.
1944. Amortization Fund will carry the debt charges, so that the city will be virtually debt free in 1944, and completely debt free in 1952, as the amortization fund will have enough funds to pay all interest charges between 1944 and 1952.

The first comprehensive improvement program by the city of Milwaukee was the Seven Year Plan prepared for the period 1937 to 1943. Now that this period is drawing to a close, the city is in a splendid position to continue long-term planning on a sound basis. The funds for the new post-war public works program, now being prepared by the Long-Term Improvement Program Technical Committee for a per-

iod of six or more years in the future, will come from the Permanent Improvement Fund. For several years Milwaukee has been financing permanent improvements on a pay-as-you-go basis. It was formerly the practice to finance permanent improvements from the proceeds of bond issues. To avoid interest expenses, the city stopped issuing bonds in 1932 and has since financed permanent improvements on a cash basis. Since then, of course, the amount required for interest and principal on the bonded debt has declined, and the tax levy for that purpose has decreased each year.

With the intent of keeping the city debt free after the Public Debt Amortization Fund takes over the existing bonded debt, a Permanent Improvement Fund was established several years ago. Beginning with the 1936 tax levy, at the suggestion of Comptroller William H. Wendt, an amount has been included annually for the permanent improvement fund, representing the difference between the current requirements for debt purposes and the peak point of 1932. The full amount of the Permanent Improvement Fund ($3,540,906) was included in the 1943 budget, although it is felt that a relatively small number of the projects outlined will actually be carried out during the year. This same procedure will probably be followed for the duration of the war, so that in the post-war period the city of Milwaukee will have a large reservoir of funds to proceed with public improvements and thereby aid materially in maintaining full employment.

Tax and Planning Correlation

Another committee which is engaged in post-war studies is the Technical Committee for Tax and Planning Correlation. This Committee was appointed by Acting Mayor John L. Bohn to study rehabilitation of blighted areas, solutions for declining values in the downtown area, and to cooperate with the city's Board of Public Land Commissioners in connection with the preparation of a master city plan. The Committee has held several meetings, and is now engaged in a series of studies of developments in other cities in solving similar problems. The Committee includes the City Tax Commissioner Thomas A. Byrne as Technical Director, Commissioner of Public Works, City Comptroller, City Treasurer, City Planner, representative of Public Land Commission, City Attorney, city real estate agent, Building Inspector, City Engineer, with the Municipal Reference Librarian as secretary to the Committee.

The city's Board of Public Land Commissioners and staff, with the assistance of various public and private agencies, is now engaged in detailed studies on a master city plan and a lakefront development plan. These studies and those of the Technical Committee on Tax and Planning Correlation will probably bring to light important new public works projects which will be considered by the city's Long-Term Improvement Program Committee in the formulation of the city's post-war program of six years or more in the future.

EDITORIAL NOTE—For the information in this article, THE AMERICAN CITY is indebted to Milwaukee's Long-Term Improvement Program Technical Committee, which includes Deputy City Comptroller James Barr as Chairman; Commissioner of Public Works Walter M. Swietlik; City Planner Alvin C. Bromm; City Attorney Walter J. Mattison; and Municipal Reference Librarian Norman N. Gill, secretary of the Committee.

Inter-City Cooperation Urged as Preferable to Consolidation

ADDRESSING the Board of Realtors of Maplewood and the Oranges on June 9, William J. Orchard, of Maplewood, N. J., expressed a point of view as to municipal consolidation which many readers of THE AMERICAN CITY will find of interest.

These five contiguous New Jersey municipalities, lying west of Newark, N. J., in the New York metropolitan area—Orange, East Orange, South Orange, West Orange, and Maplewood—have grown from a combined population of 84,000 in 1910 to some 167,000 in 1940. Together they form what has been designated as "a light industrial and higher-than-average residential community." The civic-commercial organization which serves all five municipalities—the Chamber of Commerce and Civics of the Oranges and Maplewood—has stated as its objective: "To do everything possible to encourage business and industry within its borders and still maintain the high-grade residential character of the area."

Discussing governmental interrelationship of these five communities, Mr. Orchard said:

"The form of government of our municipalities will have a great influence on our future. Twenty years ago many of us were earnestly interested in municipal consolidation and the possibility of combining some of our municipal governments. The suggestion was made that the twenty-two municipalities in Essex County consolidate into the City of Essex and eliminate the duplication of municipal governments and the superimposed county government. That idea had many earnest advocates a decade ago and still has some. Many, many students of the problem, among them your narrator, who years ago were friendly to the idea, no longer advocate such consolidation.

"Though such consolidation would bring obvious savings in tax dollars, it would move the individual citizen further away from his local government and inescapably reduce his civic interest. It is submitted that the principal reason these communities are outstanding is because the average level of civic interest is high. In few communities will be found such a large portion of the population interested in civic affairs as in the Oranges and Maplewood. If these communities are to maintain their high character, a continuance of that civic spirit is a prime requisite. The closer an individual comes to his local government—the greater his civic interest; the smaller the governmental unit—the closer the average citizen remains to his government. The sacrifice of civic spirit and of civic interest which would result from consolidation would, in our judgment, more than offset any financial gains which might come about.

Joint Milk-Inspection and Health Services

"That, however, does not eliminate a continuance and earnest expansion of municipal cooperation. We have many instances of such cooperation between our five municipalities now. We should have more in the future. Our five municipalities now jointly operate a Milk Inspection Association which has been operating with outstanding success since 1915. The Venereal Disease Association of the five municipalities has been operating since the same year. These are official bodies operated by our five municipalities. Our joint Chamber of Commerce and Civics and our joint Welfare Federation, with most of its twenty-nine agencies serving the population of our entire area regardless of municipal boundaries, are outstanding examples of municipal cooperation—both official and unofficial.

"Without taking away from the basic autonomy of any municipality, this official cooperation should be extended as soon as practicable to include all public health functions in those areas. . . . Because this problem is related to the whole problem of social well being, the Welfare Federation has recently appointed a special committee to work on this problem of joint municipal cooperation through consolidation of our Municipal Health Departments;—and it is hoped that in that effort the committee will receive the cooperation of all business and civic groups interested in the long-range picture."

In this talk before the Board of Realtors, Mr. Orchard stressed another problem of widespread interest, even in higher-than-average residential communities—the growing contagion of blight in the older areas. To help solve this problem the speaker urged the setting up of a reconstruction or rehabilitation commission, whose function it would be to see that a long-range program of post-war reconstruction, aided by state or Federal funds, is adopted.

Local Government Is News—30

Talking Figures: New Ideas in Graphic Presentation—2

By PHILLIPS BRADLEY

IN the May issue of THE AMERICAN CITY (pages 50-51) some of the new ways of presenting facts and figures were illustrated from recent official and unofficial reports. These new techniques for dramatizing the business of City Hall offer fresh opportunities to our city and town officials to interpret their jobs to their constituents—the citizen-stockholders in local government.

An ounce of imagination in graphic portrayal of municipal functions and operations is worth a pound of argument or analysis in the text. Few City Halls are without plenty of talent available from the employee ranks for translating ideas and data into the basic language of the picture graph. The main task of department and division heads is to see that the problems—and the results—of local administration are made intelligible and intriguing to the people. It is they who will, in the long run, decide how far we shall go toward improved community conditions in the post-war world. If there are problems to be faced, if there are results already achieved, an informed understanding by *all* the people—not just those who are habitual readers—is an essential to further progress.

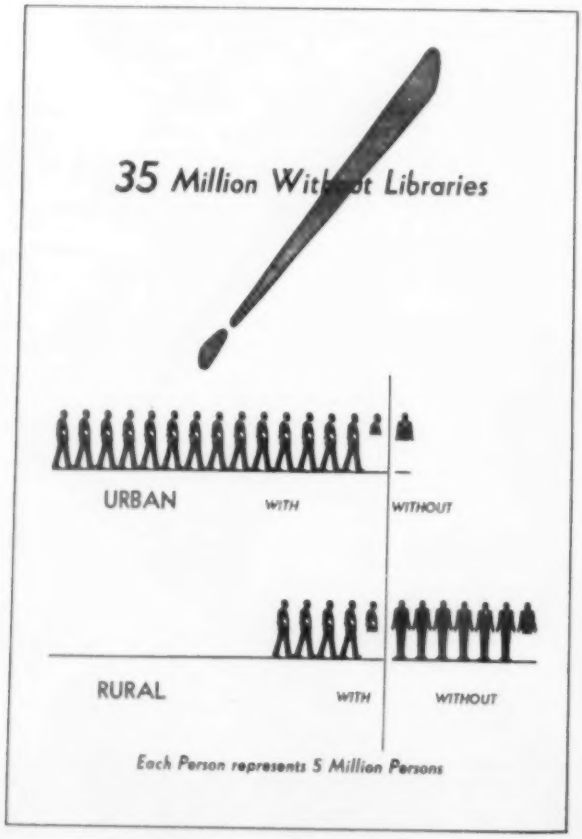
Take for instance the problem of coordinated community planning. In the June issue (page 95) two charts of "Planning Deeds and Needs" were shown. The first makes the necessity of coordination far more vivid—and inescapable—than reams of paper. The second tells at a glance how urban "blight" is spreading in one of our largest cities. Far better than words, these graphic charts drive home the need for community action.

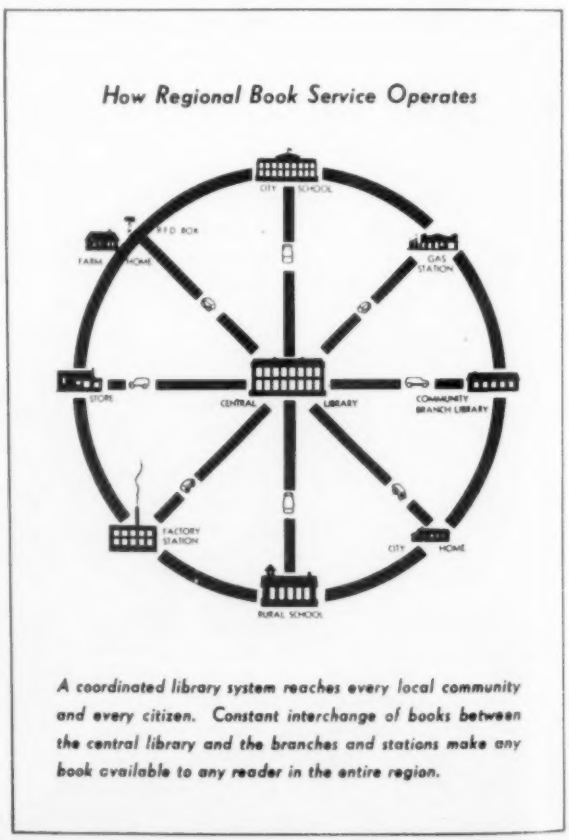
Another problem for which a lot of people do not have the answer is "why relief now when work is available?" The Denver Bureau of Public Welfare puts the answer in terms which he who runs may read—and ponder. The question is given a statistical, as well as a logical, answer from the data of the people's own relief agency.

Still another problem—for today as well as tomorrow—is the extension of the people's own library services to a wider public. The "problem" is graphically presented in terms of existing library services to urban and rural populations. The "answer" is suggested in terms of how a coordinated library service actually works.

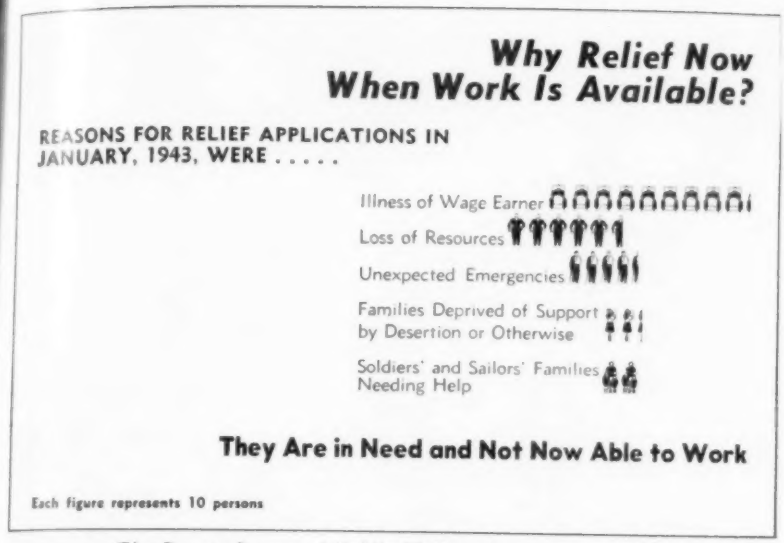
Post-war Communities: The Potential

Perhaps the most pervasive issue, about which most people are concerned today, is the how of post-war demobilization. The illustration here is of a single estimate on a national scale. The problem is one, however, which reaches down into every hamlet in the nation. Certainly in our larger cities,

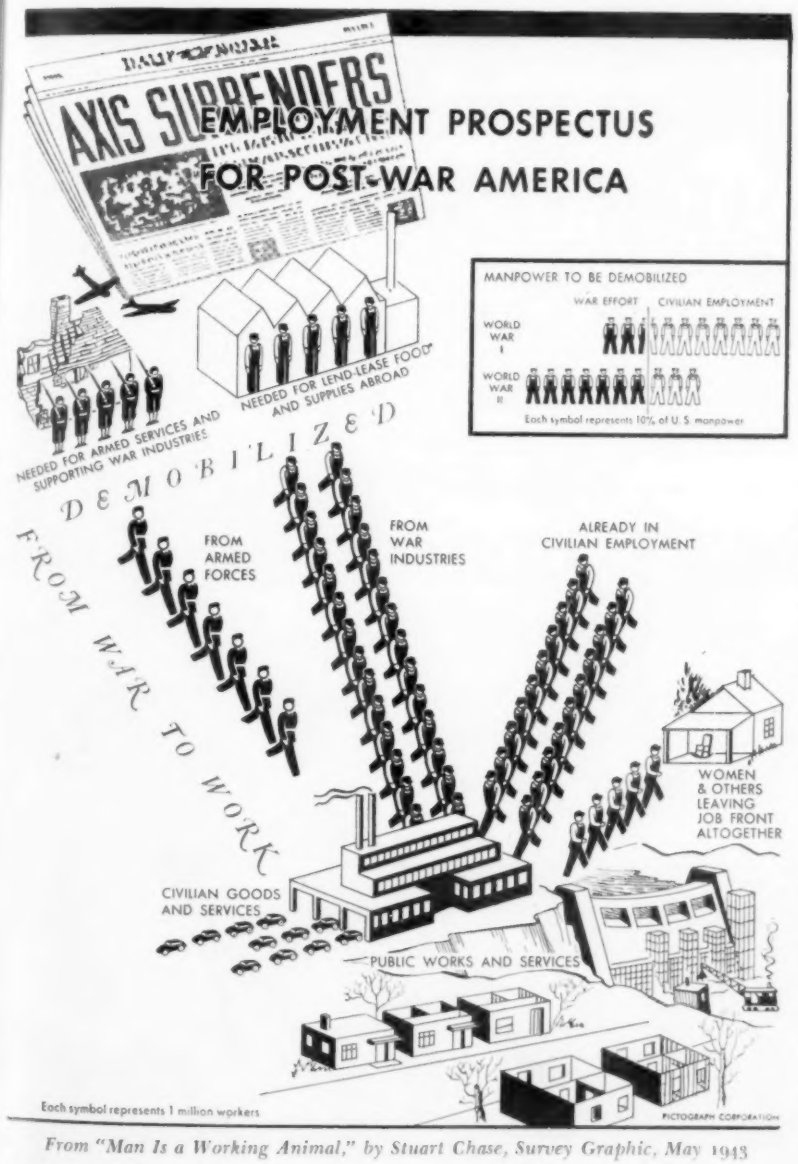



How Regional Book Service Operates
CITY SCHOOL
R.F.D. BOX
FARM HOME
GAS STATION
STORE
CENTRAL LIBRARY
COMMUNITY BRANCH LIBRARY
FACTORY STATION
CITY HOME
RURAL SCHOOL
A coordinated library system reaches every local community and every citizen. Constant interchange of books between the central library and the branches and stations make any book available to any reader in the entire region.

The American Library Association visualizes library needs and shows how a coordinated library service works


Why Relief Now When Work Is Available?
REASONS FOR RELIEF APPLICATIONS IN JANUARY, 1943, WERE . . . . .
Illness of Wage Earner
Loss of Resources
Unexpected Emergencies
Families Deprived of Support by Desertion or Otherwise
Soldiers' and Sailors' Families Needing Help
They Are in Need and Not Now Able to Work
Each figure represents 10 persons

The Denver Bureau of Public Welfare Answers a Question


AXIS SURRENDERS
EMPLOYMENT PROSPECTUS FOR POST-WAR AMERICA
MANPOWER TO BE DEMOBILIZED
WAR EFFORT
CIVILIAN EMPLOYMENT
WORLD WAR I
WORLD WAR II
Each symbol represents 10% of U. S. manpower
NEEDED FOR LEND-LEASE FOOD AND SUPPLIES ABROAD
NEEDED FOR ARMED SERVICES AND SUPPORTING WAR INDUSTRIES
DEMOBILIZED
FROM WAR TO WORK
FROM ARMED FORCES
FROM WAR INDUSTRIES
ALREADY IN CIVILIAN EMPLOYMENT
WOMEN & OTHERS LEAVING JOB FRONT ALTOGETHER
CIVILIAN GOODS AND SERVICES
PUBLIC WORKS AND SERVICES
Each symbol represents 1 million workers
PICTOGRAPH CORPORATION

From "Man Is a Working Animal," by Stuart Chase, Survey Graphic, May 1943

the problem—and the possibilities—of local reemployment can be portrayed in somewhat the same fashion. Local industries, pre-war and war, can be pictured—in terms of their own estimates. Estimates for the public services—education, recreation, social services—as well as private employment can similarly be graphed.

The various ways in which problems are being stated and results portrayed, by City Halls and others, suggest a field for more effective government reporting for the world of tomorrow. The outlines of that world will be drawn by the votes of the people, not alone by the blueprints of the planners. Is it not time that City Halls throughout the nation begin to educate their citizen stockholders in the possibilities—and the potentialities—of the post-war world for their own communities?

Municipal Work Week

THE length of the work week of office personnel in 830 reporting cities is summarized in tabular form in the "Municipal Year Book" for 1943. Almost three-fourths of all municipal clerical employees, as found by this study, work between 38 and 46 hours a week. The number of hours worked per week varies greatly, however, among population groups; in general the larger the city, the shorter the work week. For example, in almost three-fifths of the very large cities the employees work less than 42 hours per week, while in more than two-thirds of the cities between 10,000 and 25,000 in population, the normal work week is 42 hours or more.

Twenty-two cities over 10,000 population made changes during the last year in the length of the work week for municipal employees. Of these cities, 10 are over 50,000 population; and 6 of the 10 increased and 4 decreased the working hours. Of the 12 cities under 50,000 population, only 4 increased while 8 cities decreased the working hours for some or all of their employees. Ten cities increased and 12 decreased the number of working hours.

Alley Dwelling Authority Broadens Scope

UNDER Executive Order, effective June 1, the name of the Alley Dwelling Authority, of Washington, D. C., has been changed to National Capital Housing Authority, the new title expressing more clearly the nature of the Authority's expanded work. John Ihlder continues as Executive Officer.

Announcing

"SEE-THRU" PUMP HEAD

(a) Moulded, transparent plastic impervious to corrosive effect of all water works chemicals.
(b) Built-in twin sight feed domes.
(c) Visible check valve operation.
(d) Patented, fabric reinforced, molded, dished diaphragm. Large enough to allow reasonable stroking rates with resulting long life of all moving parts.
(e) Tubing Type connections eliminate metal hose clamps.

ELECTRIC MOTOR

Standard 1/6 h.p. electric motor available everywhere mounted on swing base for easy belt tension, adjustment provides ample power (Belt drive from your RPM ideal as Chem-O-Feeder has built-in speed reduction).

DOSAGE CALCULATOR
***(For Hypochlorinators)**

No more figuring or hunting for instruction books, delivery curves, etc. Permanently attached to Chem-O-Feeder the "Dosage Calculator" tells all. How to make up solutions. How to set feeder for proper stroke length and stroking rate. All this information for several dosages and many pumping rates.

CHEMICAL FEED SELECTION KNOB and VISUAL STROKE LENGTH INDICATOR

Chemical feeding rate may be selected and changed at will while the Chem-O-Feeder is operating by mere twist of chemical feed selection knob which is directly connected to displacement mechanism and observation of visual stroke length indicator. Stroke length indicator dial fully protected by plastic cover.

3 STEP CONE PULLEY

V-Belt drive through 3 step-cone pulleys allows three separate stroking rates in addition to full stroke length adjustment for widest range of feed or dosage.

UNIT FRAME

Enclosing case of one piece cast iron construction makes a rigid frame of great strength and pleasing contour for Chem-O-Feeder mechanism. Mounting holes or slots cast in frame.

OIL FILLER CAP

Chem-O-Feed mechanism operates silently with negligible wear immersed in oil bath. Conveniently filled here. (drain in back)

BEARINGS

Lifetime Ball Bearings immersed in oil bath support all rotating shafts.

WEEP HOLE

Full length bearing with oil seal for push rod prevents chemical from entering Chem-O-Feeder casing in event of diaphragm rupture and forces it out weep hole provided in Plastic Pump Head Mounting Collar.

HEAVY DUTY
Chem-O-Feeder

Designed by 1000 Waterworks men, backed by %Proportioneer's% experience in over 10,000 successful installations as well as our iron clad guarantee.

Continuous Feed
Adjustable While Operating
Designed for Long Life

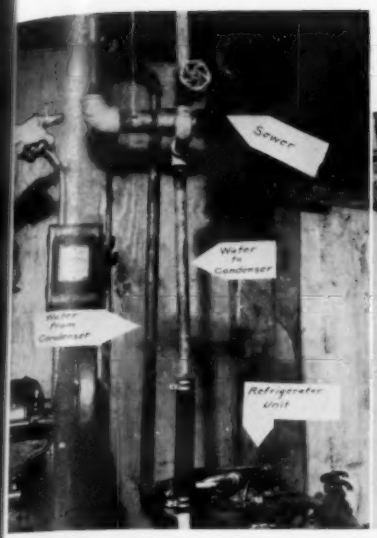
%PROPORTIONEERS, INC.%

"Chemical Feeder Headquarters"

99 CODDING ST. PROVIDENCE, 1, R. I.

A Cross-Connection Jinx

Officials Track Down a Source of Water Pollution at Entiat, Wash.



Two views showing cross-connections Mr. Ajax found and the simple way they were remedied. The picture on the left shows clearly the connection of the water line from the condenser directly to the sewer line. On the right, City Engineer James Dunstan at Wenatchee, who worked with Mr. Ajax, points to the simple manner in which the connection was corrected.

WHEN a town that has had a record of having periodically bad water samples suddenly turns in a perfect record for the entire year of 1942 for no apparent reason at all, one has a right to be suspicious. At least Lloyd C. Ajax, General Sanitarian for the Chelan County Health Department in the state of Washington, was and he decided to do a little investigating. Chelan County covers essentially the city of Wenatchee and its suburbs.

L. D. Hagen, Water Works Superintendent of Entiat, Wash., the town having this record, was mystified himself and was ready to offer all the cooperation possible, since he didn't exactly like these sudden visitations of bad water samples that apparently could not be controlled.

Tests and Operating Data

According to a report by Mr. Ajax, in the Washington Department of Health bulletin, he noticed a curious coincidence between the bad water samples and the operating data. Monthly samples showing coliform organisms were taken following periods when the water had been cut or turned off in the mains for repair work. During 1942, the year of a perfect record for good water reports, the water had never been turned off.

In studying the matter further, attention was directed toward the refrigeration equipment in the town. During this investigation, three refrigerators were discovered having water-cooled condensers with the water supply passing through the condenser and entering directly into a public sewer system. This arrangement disclosed the possibility of creating a negative pressure when the water was shut off and of drawing sewage from a horizontal soil pipe or a flushed toilet. If this should occur, one might expect bad samples for as long as a week and possibly an outbreak of intestinal disease.

Discovering Other Offenders

Following this discovery, a thorough survey disclosed over 32 refrigeration machines in the Chelon County area forming direct connections between water and sewer systems. This type of connection is a violation of plumbing regulations; however the majority of these connections were made by men not aware of the danger involved. A few, Mr. Ajax states, were made by plumbers who should have realized the danger.

Cooperation

Municipal authorities had no difficulty in getting the owners to eliminate these connections. When the danger was explained and they were shown how they could run the condenser water into trapped open fixtures, the owners were anxious to comply.

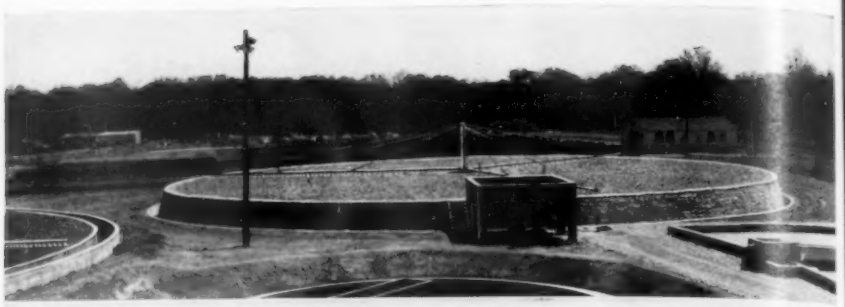
A Vote of Confidence for Water Softening

Kansas City Citizens Register Approval

PUBLIC reaction to Kansas City's water softening program completed last year (see June '42, p. 43), came under the close scrutiny of the Civic Research Institute of that city and emerged showing firm stamp of approval. The Institute conducted a city-wide survey of public opinion during the first half of January, asking whether people were aware of the water-softening program and whether they liked the results. Officials limited the survey to people who had lived in the city for more than a year in order to be certain that the reactions would be fair and unbiased.

Of those that were interviewed, 83 per cent stated that they were aware of the change in the water-treating process. Home owners were more aware of the change than renters; 88 per cent knew of it in contrast to 80 per cent among renters.

On their attitude toward water softening, 77 per cent of those who knew the water had been softened approved of the change. Fifteen per cent qualified their answers with the remark that it takes less soap but they did not care for the taste. Women, more directly affected by water softening, were found to be 11 per cent better informed than men on the change and expressed more favor.



Again

SEWAGE EQUIPMENT BY GRAVER

Graver's ability to design and build sewage equipment to meet the most exacting requirements of the consulting engineer is again demonstrated in this installation recently put into operation at a Government Cantonment. Above is an illustration of the Graver Rotary Distributor, 145 feet in diameter, and a close-up of one of the distributor arms and the spray nozzles. This equipment was designed in cooperation with U.S. Government Engineers, fabricated in the Graver plant, and installed under the supervision of Graver engineers — another example of Graver's complete service and undivided responsibility.

Our engineers will gladly discuss your sewage treatment problems with you and submit quotations without obligation.

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A.W.W.A. Conference Highlights

1131 Gather in Cleveland on June 15-18 to Discuss Wartime Waterworks Problems

Post-War Planning

SPARKLING discussions of the water-works profession in the general scheme of post-war planning, were delivered by Col. Willard Chevalier, publisher of *Business Week,* and Abel Wolman, retiring president of A.W.W.A., Wednesday evening, June 16, in the Grand Ballroom of the Hotel Carter.

"Ten years ago," said Col. Chevalier, "both Dr. Wolman and I spoke before this same association in Chicago, discussing the same topic. However, we were faced with very different conditions. At that time, we were in the midst of a great depression and had two plans for its cure—one was to create jobs in any possible way, which resulted in relief jobs, boondoggeling, and finally the WPA. The second was to use public works as a device for priming the economic pump; or to make up for lack of private capital. This resulted in the PWA program. However, today neither of these problems exist. We are engaged in the biggest manpower absorbing, pump priming, public works program we have ever seen."

In discussing the post-war outlook, Col. Chevalier said that we first will be confronted with a race between runaway inflation and the production of goods. He feels that if we weather the first six to ten months, we will enjoy five to ten years of prosperity.

"The bulk of public works is municipal," he said. "It is your duty to get the business man on your side and convince him that these municipal services are important to his business."

Adding to Col. Chevalier's remarks, Dr. Wolman assured his listeners that planning or thinking ahead is democratic. "Only recently," he said, "has it fallen into disrepute and become accused of being connected either with the New Deal or with Collectivism."

He recommended that water-works operators appraise their requirements for the next ten years, and recognize this planning as a local responsibility. He urged officials to authorize their projects, prepare plans and specifications, arrange for the necessary financing, and finally, to organize the program for adjustments in political areas.

"Remember that you are offering a service," he said, "that neither the Republicans nor the Democrats can do without."

Anticipate Drought Conditions

"WHAT would your situation be in the event of a drought?" asked J. A. Krug, Director of the Office of War Utilities. "What materials would you need to meet your war load? The War Production Board plans to ask water-works utilities to compile a list of materials that they will need to combat such an emergency."

"We have been coasting on a plentiful water supply thus far," said Mr. Krug, "but we must prepare ourselves against the possibility that this may not continue. We need a careful appraisal of our war load, caution against optimism that this is anything but a long, hard war, and full realization that one community should help another whenever possible."

Mr. Krug stated that there is more to the statement that the side with the most material wins. The side with the most material, he said, also has the fewest casualties. "We haven't an oversupply of any material," he said. "The cast iron situation is better, however, it still has its essential uses."

Adding to Mr. Krug's remarks, Arthur E. Gorman, Chief of the Water Branch of the OWU, stated that a certain amount of procedure, sometimes called red tape, is necessary. He pointed out new orders further simplifying the required applications and making it easier for water-works men to obtain required material for maintenance and repair. He further pointed out that to help in the present emergency, utilities must adopt water conservation practices such as were practiced in Philadelphia last year—which enabled this city to reduce by 15 to 20 per cent the normally expected peak demands.

"Defer extensions as long as possible," he said.

Two Water Softening Developments

Spiractor

THE smaller municipalities will receive assistance from the developments in the cold lime-soda process of water softening using the "Spiractor," according to S. B. Applebaum, vice-president of The Permutit Co., 330 W. 42nd St., New York, in a paper delivered June 15. This process, invented by E. T. Zenter, a Czechoslovakian scientist, some six years ago, will speed the rate of water softening and produce results in five to ten minutes that formerly took from one to four hours. The resulting sludge contains 95 per cent solids, in place of the usual one to five per cent in the conventional plant.

The process consists of introducing lime, soda ash, and the raw water simultaneously and tangentially in the bottom apex of an inverted conical shell.

This shell contains a catalyst in the form of small limestone granules, and the precipitates cling to this catalyst as the water spirals upward. The conical shape of the equipment supplies high enough velocities at the entrance to keep the catalyst suspended and a decreasingly low flow at the surface to enable the treated water to separate when it emerges. The upflow feature tends to prevent cementation of the granules; the growth can be controlled so that when the lower granules become too large they can be drained, and fresh catalyst added to the top.

Demineralizing

The use of zeolites also has developed in recent years, according to Mr. Applebaum. The original sodium zeolite exchanged calcium and magnesium for sodium, resulting in an effluent that contained sodium bicarbonate to which some operators objected. Consequent research developed Zeo-Karb, an organic type of sulphonated coal zeolite which could be used as a hydrogen zeolite. This type removes the bicarbonates as well as the hardness but does not remove the anions, sulphates and chlorides.

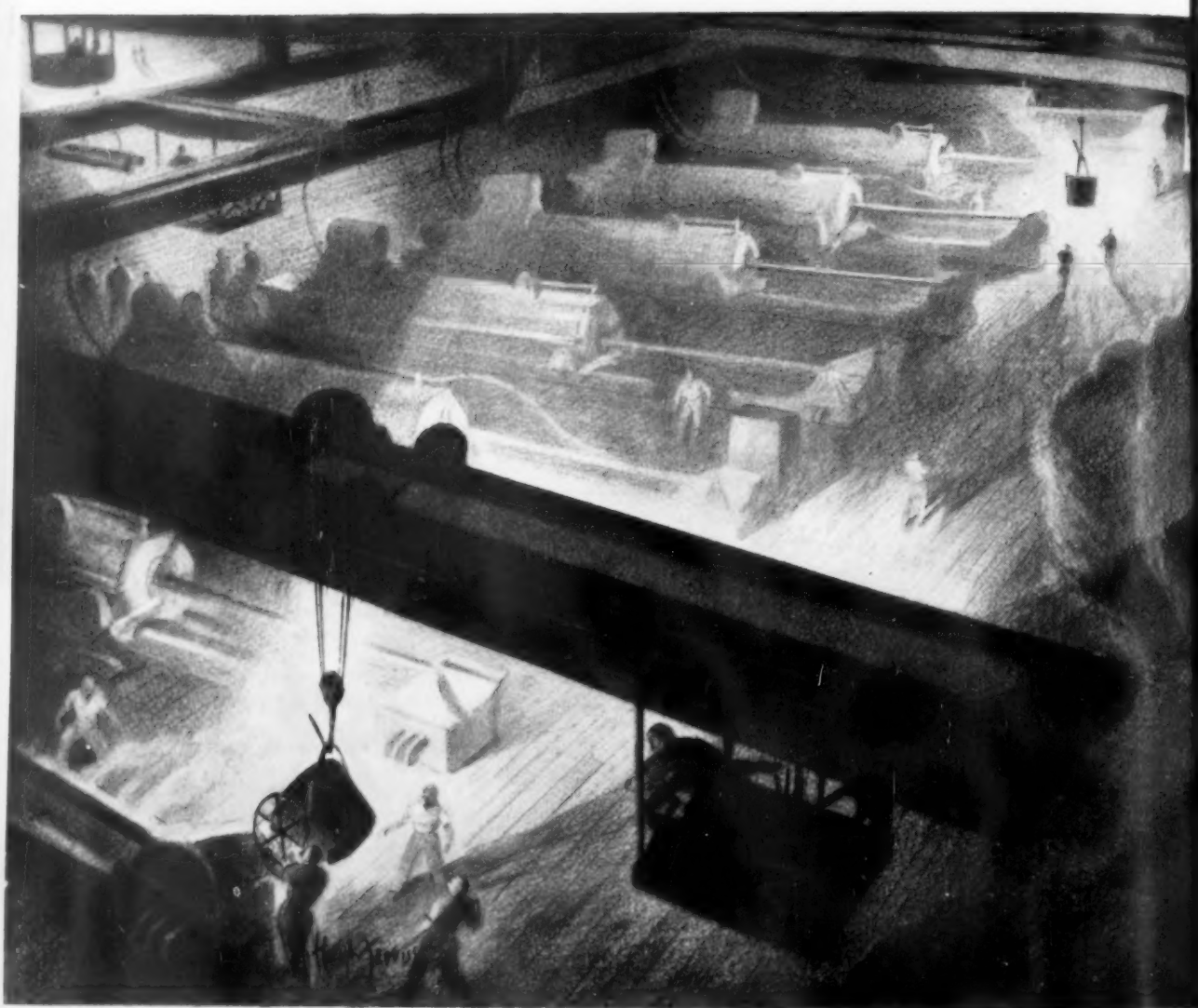
The latest development is "demineralizing" which removes both the cations and anions and produces the equivalent of distilled water at a very much lower operating cost.

Tank Maintenance Rackets

RACKETEERS in the tank maintenance field received rough handling on Tuesday, June 15, by Louis R. Howson of Alvord, Burdick

Pipe foundry *NEW* style

The picture below is of a cast iron pipe foundry. Pipe is made in electrica and hydraulically operated centrifugal casting machines which are carefu regulated to produce the diameter and thickness of pipe desired for a particu pressure class. The pipe is then heat-treated, dipped, tested, trademark inspected and ready to load on cars or trucks. It's a streamlined operation large, yet flexible, capacity, with quality controls at every step from r materials to finished pipe. Immediate shipments with proper priorit



Crane's-eye view of a battery of casting machines in one of our plants, drawn by Hugh Ferriss.

UNITED STATES PIPE & FOUNDRY CO.

General Offices: Burlington, New Jersey. *Plants and Sales Offices throughout the U. S. A.*

and Howson, Chicago consulting engineers.

"Be on your guard," stated Mr. Howson. "Watch out for the man who warns against the tank's possible immediate failure. Tanks may leak, but do not collapse.

These racketeers, stated Mr. Howson, generally operate by offering to repaint an overhead tank at a nominal cost, with the added clause in the agreement that the contractor shall remove all loose rivets and weld all weak points in the tank at a fixed price per hour for men and equipment. They then remove rivets far in excess of those needing replacing, and the unfortunate municipality suddenly finds itself with a bill as much as ten times larger than the one they had originally contemplated.

A tank, he stated, should usually be painted about once each five years; one coat should be sufficient, but if in bad shape, this should be preceded by a primer. The inside and bottoms should have fully as good or better attention than the outside. Ordinarily a red lead and linseed oil paint is sufficiently good. However, litharge should be added to hasten drying. He urged consulting both the tank and paint manufacturer before reaching a final decision.

Leaks, he pointed out, may occur around expansion joints or loose rivets, and may be stopped by the simple expedient of caulking. Since the rivets carry their load in shear, he pointed out that a little rivet head corrosion will not necesasrily impair load-carrying capacity. Leaks should be repaired by patch bolts rather than by welding, since the heat has a tendency to open additional holes.

"There is more to qualifying for overhead tank maintenance than merely being a steeplejack," said Mr. Howson. "Adequate maintenance other than painting should be considered an engineering matter."

Municipal Salary Rates in Oregon Cities

SALARY RATES IN 16 OREGON CITIES HAVING OVER 5000 POPULATION

1940 Population	Name of City	Mayor	Council-man	City Manager	City Engineer	Police Chief	Fire Chief	Health Officer	Water Supt.	Street Supt.	Park Supt.
305,394	Portland(a)	$6000	$5000	.....	$7200	$4800	$4800	$4980	$4500	.....	$4200
5,654	Albany	96	72	.....	.....	2280	2280	.....	.....	$2280	.....
10,389	Astoria	600	400	$3600	1.50(H)	2754	2454	1074	2934(i)	.....(k)	.....
9,342	Baker	2000(b)	1800	.....	1800	1800	1980	1296(g)	.....	.....	Mo.130(h)
10,021	Bend	120(c)	120	4500	.....	3000	3000	600(h)	3240(f)	.....	2160
8,392	Corvallis	.....	.....	.....	3600(f)	2280	.....	.....	3180	.....	1320(l)
20,838	Eugene	.....	.....	.....	3300	2400	2400	1000(g)	6000(j)	1800	1440
6,028	Grants Pass	.....	.....	.....	1200	1920	1920	300	2400	1920	1800
16,497	Klamath Falls	2100	288	.....	3000	2730	2700	600	.....	.....	1680
7,747	La Grande	.....	260(m)	3300	1.25(H)	1920	1920	420	1920	2100	.....
5,259	Marshfield	3.50(M)	3.50(M)	.....	500	2400	480	200	.....	2400	.....
11,281	Medford	.....	.....	3960(d)	1200	2640	2646	1386	3600	.....	1920
6,124	Oregon City	.....	.....	2400(e)	.....	2340	2340	480	2340	2340	.....
8,847	Pendleton	.....	.....	.....	3600	2400	2400	1530(g)	3000	2340	.....
30,908	Salem	.....	.....	.....	2640	2640	2640	1260(g)	4416	.....	1782
6,266	The Dalles	.....	.....	.....	.....	2208	2208	.....	2415	2070	.....

(a) Base rate salaries are shown for Portland positions; most employees now receive $20.40 per month cost-of-living adjustment in addition.
(b) Mayor acts as City Treasurer.
(c) $5 per meeting; not over two per month.
(d) City Superintendent, not City Manager.
(e) Half-time salary; on leave as Manager of Vanport City.
(f) Acts as Street Superintendent.
(g) City's share of cost of county health unit.
(h) Part time.
(i) Also Street and Park Superintendent.
(j) Also Electric Utilities Manager.
(k) See Water Superintendent.
(l) House furnished also.
(m) Commissioners receive $5 per weekly meeting.
(H) Per hour.
(M) Per Meeting.

IN a recent bulletin, the Bureau of Municipal Research and Service, University of Oregon, cooperating with the League of Oregon Cities and the Oregon Finance Officers Association, presents information on the salary rates of the principal officials and employees in all but 19 of the 196 incorporated cities in the state of Oregon. This information was obtained through the cooperation of the city recorders or city auditors of the 177 municipalities covered. Salary data are given for every city having a population of over 1,000 in 1940 and for all but one city (Eastside) having over 500 population.* The rates are in most cases those paid as of February 15, 1943, but some are as late as March 1.

To hold present city employees and at least partially to offset the increased cost of living, many Oregon cities have found it necessary to grant salary increases since August of last year. This is true of nearly all cities having a population of over 2,500 and many smaller places. Some cities have eliminated one or more positions and have given salary increases to the remaining personnel. Several cities have maintained existing base rates and have adopted a percentage salary adjustment to the increased cost of living.

In the accompanying table, made up of material from the bulletin, the salary rates of officials in Oregon cities of over 5,000 population, are presented. In using this information, allowance should be made for the fact that the duties of positions listed under the same titles may vary considerably between cities. In most cases where the annual salary involves odd cents, the figures shown have been adjusted to even dollars. Dashes indicate no comparable position, non-salaried position, or lack of information on position.

* Oregon is one of fourteen states which establish no statutory classification of cities by population and do not distinguish between cities and towns in population.

Who Should Make Service Connections?

IF you want to avoid trouble and be sure of a good clean workmanlike job, allow only those directly connected with the water works department to make service connections, says Clyde E. Williams, City Engineer, South Bend, Ind. Speaking before the annual Purdue Road School held January 25-27, he not only presented his own conclusions, but also those of more than 100 water works superintendents throughout the state of Indiana.

"My own case is an illustration of the wrong method," he stated. "In South Bend, local plumbers make all the service connections, unless they have been installed by a contractor prior to paving construction. We require them to obtain a permit from our engineering department, but in many instances they start the excavation first, and before they have located the main from the records. The result is that they cut the pavement more often than is necessary and they do not inform the street department in time, which makes an added city liability."

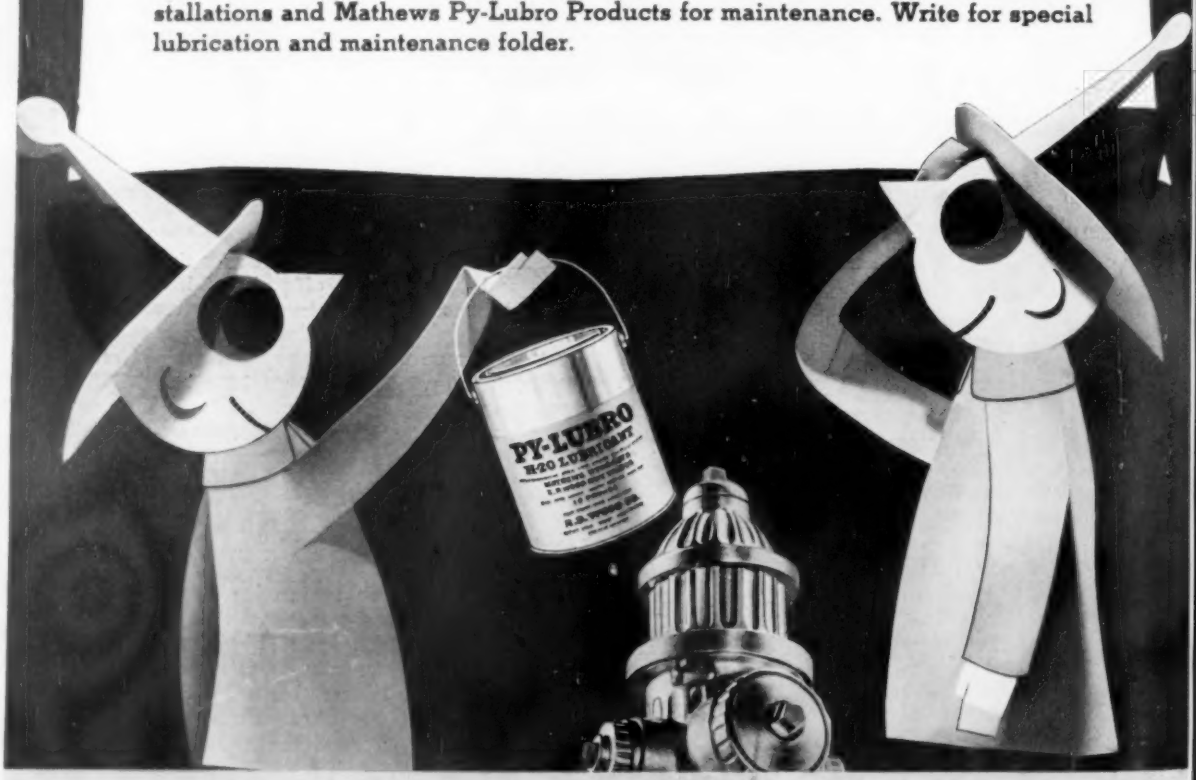
Plumbers, he said, also are not as conscientious about avoiding tunnels under pavements nor do they backfill the trenches as carefully as city crews.

Mr. Williams feels that ideally the water works department would construct, maintain, and repair all service lines to the property line. This is the practice in some places in Indiana. However, existing regulations make it impossible to be adopted generally.

CONSERVATION OF EQUIPMENT IS THE ORDER OF THE DAY

Like every mechanism, an occasional lubrication of a hydrant repays with longer life and easier operation. Mathews' Py-Lubro H-20 Lubricant is scientifically prepared for this purpose. It is waterproof, frostproof and corrosion preventive. Under actual service conditions it constantly outlasts other lubricants. Mathews' Py-Lubro H-20 Packing is another outstanding contribution to easy, economical maintenance. Made from a new Du Pont packing material known as "Rayon Tow" it is tough, long-lasting. Treated with Py-Lubro Lubricant it provides a hydrant packing never before equalled.

The designing of a hydrant has a lot to do with maintenance, too! Mathews Hydrants have relatively few moving parts. Every friction point and every operating thread includes at least one bronze surface. All moving parts are contained in a removable barrel so that if any major repairs should be necessary, a substitute barrel can be placed in the hydrant while the original goes back to the shop. You'll find it pays to specify Mathews Hydrants for new installations and Mathews Py-Lubro Products for maintenance. Write for special lubrication and maintenance folder.



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Traffic Control and Facilitation

Conducted by Traffic Control & Facilitation Committee, Institute of Traffic Engineers, 60 John St., New York
Merwyn Kraft, Chairman, Karl A. Bevins, Jay A. Czizek, A. Wallace Gove, Ross C. Harger, Walter H. Klapproth, Theodore M. Matson, William R. McConchie, Henry W. Osborne, Earl J. Reeder, William J. Weller

More Flow and Less Wear

As explained by five authorities at the University of Michigan Annual Highway Conference in February 1943; led by Maxwell Halsey, Executive Secretary, Michigan State Safety Commission; and reviewed by Wm. R. McConochie, Traffic Engineer, Chicago Surface Lines

STAGGERING of hours and ride sharing should make it possible to carry twice as many people with the same number of vehicles. Action must also be taken to reduce (1) accidents which destroy irreplaceable tires, parts, and vehicles; (2) congestion which wears out tires, parts, and vehicles and which requires unnecessary numbers of units and drivers, as well as unnecessarily large stock piles and storage facilities. Let us call on five specialists for the constructive steps to be taken.

War Traffic Regulations

D. Grant Mickle
Detroit Traffic Engineer

UNNECESSARY stops consume gasoline and wear tires, clutch, and brakes. I believe that the use of stop signs is more abused than any other traffic control regulation. Many were installed merely because requested; and the others, to overcome known traffic hazards. One vehicle desiring to turn left at a critical point can block one traffic lane and stop several vehicles. Prohibit left turns at such a point. In Detroit, on Grand River Avenue, left turns are prohibited for twelve miles—from downtown to the city limits—with marked reductions in the running time of vehicles.

Provide roomy bus stops. Bus operators seldom pull out of the moving traffic lane to load and unload, because they seldom have enough room for maneuvering. If bus operators are to be required to pull over to the curb, much longer bus stops will have to be provided.

The necessity for conservation affords unparalleled opportunity to remove traffic regulations that have no useful purpose.

Real Through Street Systems

Russell E. Harrison
City Traffic Engineer, Kalamazoo

INTERCONNECT through streets into a well-planned system for handling motor-vehicle traffic from one section of town to another. Kalamazoo car drivers frequently refer to through streets—those upon which they have the right-of-way over cross traffic—as stop streets. This expression undoubtedly originated from the fact that drivers are particularly conscious of vehicles which *stop* for them, thus permitting them to continue with negligible delay.

The chief defect of through streets is the lack of a simple interconnecting system convenient to use and easy to understand. To have such a system here, our Traffic Engineering Department and the local War Transportation Committee made the following study: One typical industrial plant in each of five industrial sections was selected to participate in the study. With the help of the personnel directors, every office and shop employee in each plant, who regularly drives a car to and from work, traced on a special street map of the city the route he generally follows to and from work. The maps were collected, each war worker's map showing the route which, under existing conditions, best suited his needs. Fourth and finally, the maps were analyzed, and routes summarized to the extent that through streets most frequently used by war workers were determined. Other streets extensively used are now being studied for possible tie-in with the city's through-street system.

These streets of most utility to essential passenger-car drivers are, and will continue to be, given the top priority rating in allocating traffic engineering improvements and traffic enforcement measures.

Safest and Fastest Routes

Ronald K. McGillivray
City Planner & Traffic Engineer
Bay City

INCREASED efficiency in Share-Ride programs resulted from pre-selected traffic routes, designed to accommodate those areas showing the highest concentrations of war residences. Maps were given to the War Transportation Committees so they could show the workers where others in the plant lived. War workers, in possession of this information, found it convenient to collect and disperse passengers on the pre-selected routes.

The second traffic conservation observed is the betterment of defense bus transportation. The buses first began to operate to the defense plants over the established bus routes, which often led through a mile or more of business district. This proved unsatisfactory because the routes did not, as a rule, pass through those areas where the greatest number of defense workers lived. Also the defense workers did not care to waste time at stops in business areas.

Shifting of war buses to pre-selected traffic routes passing through concentrations of workers' residences and avoiding the business districts, brought the advantages of shorter coach routes, running time ½ to ¾ hour shorter, and buses always filled to capacity and on time.

The third conservation is the reduction in number of personal injury and property-damage accidents—particularly in accidents at intersections where war traffic merged with business traffic. Often when the work shifts changed, there were 50 to 100 cars waiting at

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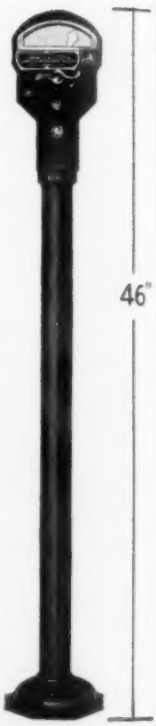
MI-CO PARKING METER

Cost of service is one of the most important considerations in selecting a parking meter. Excessive service expense could easily defeat the purpose of the meter. Maintenance records of MI-co Parking Meters indicate that service expense is negligible. This is due to simplicity of construction, ruggedness, and the elimination of many moving parts which are usually a source of trouble. You'll be interested in some figures on this important question, and in the many other advantages of MI-co Meters. The MI-co Meter is available in five models to fit the needs of every community. Write for illustrated folder which gives complete details of all features and why they are beneficial.



MI-co METER COMPANY, 231-239 Court St., Covington, Ky.

Division of THE MICHAELS ART BRONZE CO., INC.

one side of an intersection. Workers often raced to get past these intersections before they became congested. Pre-selected traffic routes, detouring business districts, provided for much smoother and more even flow of traffic and fewer accidents.

The last important traffic conservation is that of vehicles, tires, and gasoline. These traffic conservations are sizable. They couldn't be otherwise. More people are riding per vehicle, accidents at certain intersections are on the decline, buses are carrying capacity loads, and the majority of the war traffic is using the most direct and safest traffic routes from residence to war plant.

Providing Parking Facilities

Sidney Anger
Traffic Director, Traffic Bureau
Lansing

UNTANGLING parking worries created by thousands of workmen, is on old story in Lansing. Let us take the case of the Nash-Kelvinator Corporation which took over a number of buildings formerly used for storage. As the advance group of maintenance men and office employees began to arrive, their cars were parked on surrounding streets. As conversion of the buildings into a manufacturing plant progressed, more and more cars were parked on the streets. A hue and cry was raised by property holders in that area for immediate relief. Most streets were only 20 feet wide, with one of the wider streets being a main state trunk highway. The first step was to prohibit parking on both sides of the state highway street and on one side of all other streets. This move stretched the parked cars over a longer distance. Cars were parked on the restricted side of the streets, and police issued tickets wholesale. Employees, as well as the corporation, asked that city officials solve this problem.

A desirable piece of vacant property four blocks from the plant, was pointed out to company officials who acquired it. While employees were rather adverse to walking this distance, they were shown that their cars would be on company property under the supervision of the plant protection force, safe from theft of gas and tires—which could easily happen on dark side streets.

Our experience is that (1) responsibility for providing parking space for employees belongs to the corporation, rather than the municipality; (2) cooperation is always necessary between corporation and municipality; (3) adequate drainage and proper surfacing must be used in constructing lots; (4) protection of employees' cars by plant protection officers must be given; (5) entrances and exits should be constructed so as to provide safe and convenient movement of cars; (6) employees should be made to use factory lots to which they have been assigned. This can be accomplished by enforcing parking regulations on surrounding streets.

Modern Traffic Signals

Henry Barnes
Traffic Engineer, Flint

A SIZABLE income from parking meters, given to the Traffic Engineering Division of Flint in 1940, provided the manpower and materials to do the kind of traffic-signal work that every signal engineer dreams about.

The first thing was to study traffic flow at different times of the day on principal and cross streets. This showed us why our signals were actually interfering with normal movements, and told us what to do. The result of 2½ years work is a *system so flexible that instead of making the cars do what the traffic lights do, the lights do what the traffic is doing.* This system uses a synchronous master, consisting of three timing units and synchronous secondary controllers with dual dial provisions. This gives us a choice of using either progressive or simultaneous operation; and by setting up a program timer the changes are made at any hour of the day or night. Weekly studies make the system keep the cars rolling.

All systems at some time or other have mechanical difficulties that may tie up traffic for hours. We provided a means whereby, when shorts or overloads occur, the system automatically disconnects the troubled circuit from the rest of the system and allows as much traffic as possible to move without interference.

Flint has approximately 40 traffic-accuated signals. No one, we believe, can argue that they are not a true means of conservation. Because these units are installed at strategic locations carrying the burden of local vehicular traffic, we probably will not have to turn off a single signal. We are checking each one to see that the timing is set at the most efficient point, because we well know that seconds lost through overcontrol mean man-hours lost.

The problem of traffic timing is of the greatest importance everywhere, but particularly on streets carrying important mass-transportation lines. With speeds based primarily on the number of stops per mile, a street having many poorly timed signals will disrupt the best laid plans.

Careful timing of signals and elimination of unnecessary installations will do wonders toward expediting the movement of traffic in even the most congested areas. These steps will also save wear and tear on countless tempers frayed by having to wait for unnecessary traffic signals.

All in Favor of Parking Meters

"THE study of parking problems will be one of the first activities of Chamber of Commerce and municipal traffic committees after the return of the normal use of the automobile," says the National Association of Commercial Organization Secretaries in "Nacos News" for May 1943. The article continues: "Included for consideration will be the installation of parking meters. The following comments from secretaries who have gone through that 'test period' will give the rest of us the advantage of their valuable experience."

George C. McKann, Irvington, N. J. (Pop. 58,328): At the time of installation in September 1940, approximately 40 per cent of our merchants opposed them. . . . we cooperated with local officials in correcting these minor causes of friction, and today there is hardly a merchant or other businessman who does not approve of them. They have eliminated all-day parking and yet have provided space for shoppers.

Robt. D. Hanesworth, Cheyenne, Wyo. (Pop. 22,474): The meters in Cheyenne were installed just a year ago, and everyone here was very critical. We had an acute traffic problem and the meters have solved it beautifully.

M. W. Williams, Meadville, Pennsylvania (Pop. 18,919): This was the first city in the United States with a population under 40,000 and the first north of the Mason and Dixon Line—regardless of population—to install parking meters.

At the time of initial installation there was some, but very little, opposition. At the present time that has all passed, and it would not now be possible to remove these meters without a complete revolution in the business district.

After the meters had been in operation for a year and a half, we conducted a thorough study of their operation and the public reaction thereto. Our study revealed the following: retail outlets in the metered district were 95 per cent in favor of them; professional and

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- ✓ Check condition of engine regularly.
- ✓ Change lubricating oil and renew filter elements every 100 hours of use.
- ✓ Lubricate all parts of grader regularly.
- ✓ Service air cleaner every 10 hours of use.
- ✓ Clean fuel oil filters at least every 60 hours.
- ✓ Don't ride clutch. Adjust clutch pedal when and as needed.
- ✓ Keep electrical system in good condition —check battery regularly.
- ✓ Keep lost motion out of grader—use adjustments for wear and replace parts worn out.
- ✓ Keep tires inflated to recommended pressure.

If you need help or advice on any of the above, see your local Adams distributor.

DESIGNED to be *adaptable to any job* the Marines may be called upon to do is the Corps' new "Alligator Tank" which travels on water or land. Equally *adaptable to any grading job* are Adams Motor Graders. . . . Smart operators utilize Adams power, traction, strength and speed on grading jobs that range from bank cutting to ditching and from heavy scarifying and oil mix to high-speed maintenance. They take jobs as they come and quickly adapt their Adams machines to them. . . . Today Adams machines are proving their adaptability in government service. Tomorrow they will prove even greater versatility on your peace-time jobs!

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other establishments above the ground floor were 85 per cent in favor; the residential district was 85 per cent in favor.

Our study shows that two out of every three farmers canvassed and six out of every ten residents of small towns formerly trading here, favored the retention of the meters.

Our annual meter receipts follow: in 1938 receipts amounted to $8,470; in 1939, $8,459; in 1940, $8,493; in 1941, $10,420; and for the first eleven months of 1942, $10,723.

Kenneth M. Burch, Lockport, N. Y. (Pop. 24,379): Lockport has had such meters for a little over six months, and most of those who were against the installation have decided that the meters are working out satisfactorily.

William S. Johnson, Jacksonville, Florida: Arriving just in time to catch the tail-end of galley proof comes a fine, detailed statement regarding Director Bill's experience with Parking Meters. His experience, too, has been very favorable.

Frank J. Green, Waterbury, Connecticut: We have 1,272 parking meters. Results have been satisfactory to merchants who first somewhat objected to the idea. In January 1940, 646 of these meters were installed; 391 more in July 1941, and the remaining 235 in August of 1942. A test case as to their legality is now pending in court.

"This sounds pretty much like a one-sided presentation, doesn't it? Surely there must have been some 'sad' experiences with parking meters some place in the U. S.; and we will gladly present them—if we find them."

Director of Public Safety John B. Keenan of Newark, N. J., feeding one of his Mark-Time parking meters which paid for themselves in one year and collected $24,053.20 in the first five months of 1943.

Double Load on New Trolley Coaches in Philadelphia

THE Ridge Avenue trolley-coach line was the first extension of trolley-coach operation in Philadelphia, Pa., since the Oregon Avenue line—the oldest existing trolley-coach operation in the country—was put into service in 1923. The Ridge Avenue line was opened for traffic on October 5, 1941. If the rise in Philadelphia transit travel on subways, elevated lines, street cars, and buses has been remarkable, as was pointed out here last month, that on the Ridge Avenue trolley-coaches has been phenomenal. While the entire system's transit travel has risen 50 per cent in three years, the Ridge Avenue operation doubled travel in 15 months. The Ohio Brass Company describes the operation.

That such a change could be made in travel conditions on Ridge Avenue is even more surprising, as this thoroughfare, extending from downtown central Philadelphia and traversing the city northwestward diagonally, has always been known as the most difficult transit operation in the city. Narrow, congested, crossed and criss-crossed by other street-car lines, Ridge Avenue is a series of curves from one end to the other. "Crooked as Ridge Avenue" is an old Philadelphia saying.

Because of the traffic conditions, transit operations on Ridge Avenue were never very popular with the public, as schedule speeds were necessarily slow. Prior to 1938 revenue on the line declined steadily, and even when the transit boom began in 1940, Ridge Avenue travel did not increase in proportion.

In 1941 it was decided to convert the route to trolley-coach service, both as an economic measure and to give the trolley coach a severe test. The results in passenger travel since January, 1941, are shown below.

	1941 Street Cars	1942 Trolley Coaches
January	667,209	954,646
February	628,494	885,111
March	692,356	1,032,472
April	741,846	1,062,043
May	767,489	1,139,984
June	728,527	1,150,733
July	702,208	1,208,586
August	698,088*	1,195,762
September	688,635	1,199,559
Oct. 1-4	103,403	1,300,942
Oct. 5-31	796,776	
November	887,113	1,231,041
December	973,491	1,359,544

* Aug. 1-10, street car, 218,593; Aug. 11-31, buses, 479,495; all bus in September; trolley coaches thereafter.

During the same period the entire Philadelphia Transportation system increased its load from 743,000,000 passengers in 1941 to 950,000,000 in 1942.

Training That Keeps City Wheels Rolling

THE necessity to conserve municipal motor vehicles is accentuated and compounded by the drafting of automotive mechanics. There is no choice but to train the best workers available in the care and repair of the 200,000 vehicles which constitute the many motorized municipal services—and do it quickly.

To help in speeding up this essential job, a series of reading or discussional slidefilms (filmstrips) has been made available to municipal governments. It consists of 70 subjects, in two series: the first being The Units of the Automobile; the second, Care and Repair. In all, this series comprises 4,739 individual pictures: photographs, drawings, charts, diagrams, and exhibits.

The material used is basic. Its purpose is to give the untrained worker a general over-all idea of the working parts of the auto—or rapid training in truck care and repair. It is followed by book study, shop demonstration, and practice.

Each filmstrip is the basis for a single lesson, conducted by a service shop or fleet boss, or any experienced mechanic. These films are used for training in the United States Army and are part of the PTT 202 (pre-induction training) official course in schools. They were outlined by the Army and the U. S. Office of Education and only recently made available to municipalities. They were made by Jam Handy Organization, Detroit.

LYNE S. METCALF,
New York, N. Y.

25-Mile Speed Limit for Night Driving

IN an effort to curb traffic accidents resulting from excessive speed and reduced brilliancy of headlights and street lamps regulated by Proclamation No. 12, the Los Angeles County Peace Officers' Traffic Council adopted a three-point speed control program effective August 1, 1943, enforcing these speed restrictions in Los Angeles County:

During daylight hours, 30-mile-per-hour in business and residence districts; at night, 25-mile-per-hour.

In areas visible from the ocean at night, the speed of an automobile must not be greater than is reasonable or prudent with due regard for the amount of light and congestion on the highway. (Under this section any speed may be too fast for safety and may result in reckless driving charges.)

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Outdoor Lighting

Streets—Highways—Floodlighting

Plan Post-War Street Lighting Now

A GREAT many cities and towns will modernize their street lighting after the war. As things look now, most of the improvements will be done with too little planning. There won't be time for it after the war, with traffic building up rapidly.

Before the start of the war an increasing number of cities were waking to the necessity of relighting. The evidence of a direct relation between visibility and safety, and low visibility and traffic accidents, was overwhelming. The greatest expansions in traffic safety lighting, prior to war restrictions, were in those cities which had considerable quantities of it.

When the public learned that the night-to-day traffic fatality ratio on 100 miles of Detroit's main thoroughfares had been reduced from 7 to 1 down to 1.25 to 1 by modern lighting, they demanded rapid extensions. General Superinendent Louis J. Schrenk now reports 350 miles of safety lighting in use on thoroughfares, and, in addition, 5,500 new street lights have been installed throughout the city since 1936. The result of this lighting expansion over the past six years has been so favorable that a new program for the modernization of all old street lighting will get under way as soon as restrictions on the use of critical materials permit.

Hartford, Conn., started with a sample of "Traffic Safety Lighting" and was so pleased that ten miles were quickly installed. During the 3½ years that this lighting has been in use, there has been only one night fatality on these streets, compared to 32 during a similar period with the old lighting. When one considers that on an average, there are 35 people injured for each killed in traffic accidents, the wisdom of installing more traffic safety lighting becomes apparent. That is what Hartford did.

Evidence is presented on page 425 of THE MUNICIPAL INDEX 1943 from more than a score of such before-and-after cases that all add up to savings which will be effected year after year on the investment—lives saved and injuries avoided. All this besides lessening crime, speeding up traffic, relieving bottlenecks, and increasing civic pride and morale, as well as a dozen similar evident benefits.

After the war, a good street-lighting installation will not be a wonder for people to come to see from 30 miles away but rather a necessity in every progressive city. What should city officials now do to make certain their town will have an adequate, and at the same time an economical, street-lighting system? It is said that it takes very few seconds to count all the cities whose street lighting could not be doubled in efficiency without increasing the cost.

Does your city need one? Is it going to need it after the war? Take a walk through the streets and decide for yourself. If you decide "yes," now is the time to work it out. The greatly increased visibility which you will get out of your new system will come from these modern factors:

1. Greater mounting height.
2. Modern luminaires which put all the light to work for you instead of for the sky.
3. Use of larger, even if fewer, lamps.

Hang Lamps Higher

Street lamps are mounted too low almost everywhere except in traffic safety systems put in within the last half-dozen years. Increasing the mounting height gives each unit a larger area to illuminate and permits use of fewer lamps. It also decreases the glare which cuts the effectivenes of lighting in half.

All post-war street improvement plans, of course, include the modern luminaires which place twice as much light on the pavement as the older types now in use. Thus, the mere adoption of "optical" globes will double the illumination. This gives more light to work with and is an incentive to use it most effectively by means of proper mounting height, spacing, and size of lamps. Also the modern luminaires are far less expensive to maintain. Where new standards are necessary in order to obtain the greater height, it will pay, in the interests of street beauty by day as well as night, to examine the attractive styles in tall slender steel poles.

Large Lamps More Efficient

Half of the 21½ million street lights in the nation are 1,000-lumen or smaller. These small sizes, 50 to 100 candlepower, belong in dwellings rather than on a pole outdoors. The smallest economical street lamp is the 2,500-lumen. Still better are the 4,000 and 6,000; and on traffic arteries, intersections, and business streets, the 10,000, 15,000 or the 25,000-lumen are preferable. Choice is not made at random, but in accordance with the most economical provision of traffic visibility. Of primary assistance in arriving at conclusions is the I.E.S. Code of Street Lighting, used in conjunction with manufacturers' descriptions of modern equipment.

Get Jump on Traffic

To get the most from lighting, it must be well planned and modern. Street lighting is usually installed as politics dictate, which accounts for the many hodge-podge systems. In normal times you are usually too busy to do a good planning job. Then, too, the application technique and equipment for traffic safety lighting are largely developments of the past five years.

Your city will need and will eventually have modern lighting. Better consider it now and get the benefits of scientific planning. It can be installed in an orderly manner over several years as the need for public works to counteract unemployment develops. The ultimate added cost for much more light of the right kind will be surprisingly small.

Long Life *to your* Mimeograph duplicator

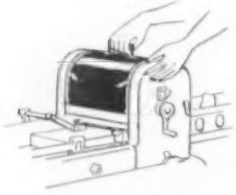
On this page are some suggestions on how to care for your Mimeograph duplicator—how to make it last. In addition to these pointers, remember, your Mimeograph duplicator welcomes and needs regular service. It can take on all the jobs you give it! So put it to its fullest use to help get out all the extra work of wartime. For practical suggestions and trained assistance, call the Mimeograph distributor in your city or write A. B. Dick Company, Chicago.

First thing in the morning, before the Mimeograph duplicator goes into action, see that it is properly dusted, free of all dirt and grime. Keep the machine covered when not in use.

Don't forget the oil. Friction wears out any machine, so keep Mimeograph equipment properly lubricated with a good medium-weight oil.

A daily bath. Take care of all rubber parts on the duplicator—they're hard to replace. Wash them regularly with soap and water.

To make ink pads last longer, agitate them each morning. Ink pads should be changed every 30 days, or oftener if machine is used continuously.



Cover the machine when it is not in use, and be sure it has been "put to bed" when you leave the office at night.

Order only the exact number of copies you need and produce only that number. Saves paper, ink and running time.

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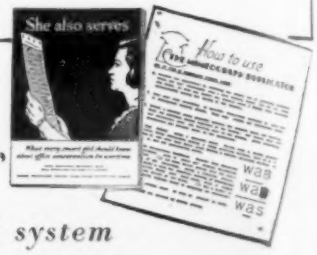

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Wartime Signal and Street Lights

By Louis J. Schrenk
General Superintendent and City Electrician
Detroit Public Lighting Commission

LONG before Pearl Harbor, the streets of Detroit were jammed with vehicular traffic. Detroit is a city without elevateds, subways, or suburban train service and with many of its industries depending on trucks for transportation of materials to points of assembly. Workers, too, must depend largely on the automobile.

Today, with 300,000 additional war workers overflowing into suburbs and towns—both nearby and distant—we have come to depend upon motor vehicles more than ever before. All this, naturally, has created serious traffic problems.

The traffic safety program has made use of three elements—wider streets, coordinated traffic signals, and adequate night-time illumination.

To reduce accidents and congestion and to increase traffic capacity, street widenings in the heart of the city have been supplemented by the establishment of one-way streets and the elimination of left turns from certain arteries. A major achievement is a new depressed highway known as the Davison Limited Highway.

The newly completed highway, which runs through Highland Park to connect two highly industrial Detroit sections, has broken up one of the worst traffic bottlenecks in the city. This depressed roadway, completion of which was made possible through government priorities, has been constructed with an eye to maximum vehicular safety. Traffic lanes and overhead bridges are unusually wide, and opposing traffic is separated by a six-foot dividing strip. Ninety-five General Electric Form 81 luminaires provide maximum safety for night traffic.

Fifteen installations of traffic signals were made during the past year; five of which are equipped with traffic-actuated controllers, eight with fixed-time controllers, and two are manually operated. Signals were installed over the roadways, on mastarms or center-suspension mountings, at 14 of the new locations and at four existing signalized intersections. Other signals were installed on nearby county highways.

During the past year, the Public Lighting Commission developed a method of synchronizing the old induction-type traffic-signal controllers, which provides a means of coordination. This was accomplished by a synchronous timing device to function as a master, or governing instrument, of the induction controller. The combination resulted in a controlling mechanism which holds its timing as accurately as synchronous electric clocks, and thereby assures accurate offsets between signalized intersections so equipped.

Davison Limited Highway in Detroit, Mich.

Detroit's pioneer installations of large scale safety lighting have stood the war effort in good stead, despite the pronounced upward surge of night traffic. The relationship between visibility and traffic accidents was recognized by Detroit safety officials during those two dark years of 1932 and 1933, when night traffic fatalities climbed to seven times the daytime deaths on a number of main traffic arteries.

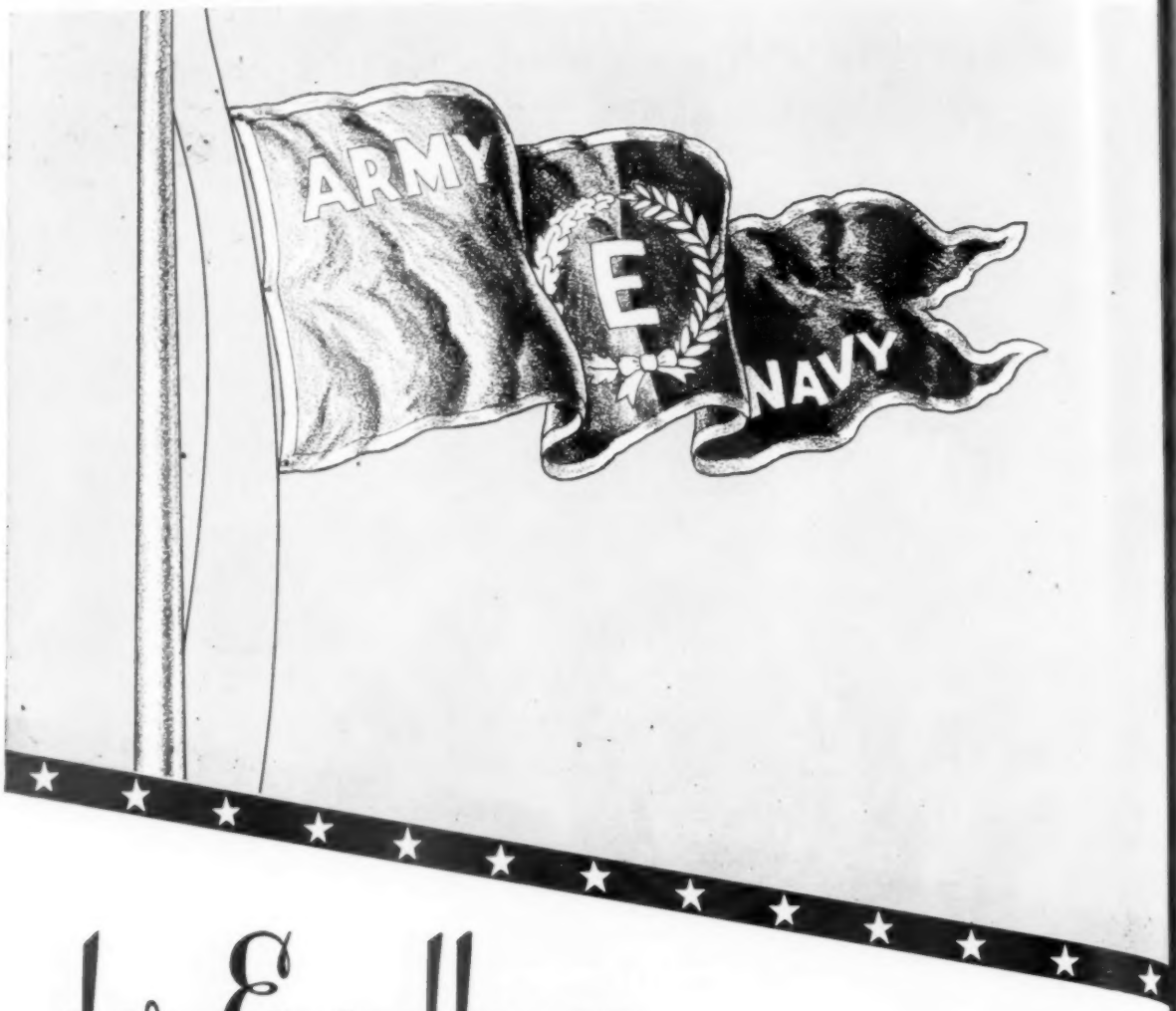
In the latter part of 1936, an intensive street lighting program was inaugurated to improve visibility on the main thoroughfares. As improved lighting was installed, the trend of night-to-day ratio went continually down. At the end of 1940, over 300 miles of traffic streets had been illuminated with safety lighting. These streets vary from 30 to 90 feet in width, and during rush hours handle extremely heavy traffic. That such traffic safety lighting pays in skilled workers' lives is proved by the 133 saved in two years on 31 miles of this section.

Last year, with equipment obtained before Pearl Harbor, more important lighting improvements were made on main thoroughfares. Entire new installations, using combination trolley and lighting standards, were completed on Michigan and on Woodward Avenues, on Seven Mile Road, and on a number of residential streets. Between June 30, 1941 and June 30, 1942, a total of 2,615 new street-lighting units were installed, including replacements of old arc lamps with incandescent units. In addition, a study, involving a 6-year fatality rate of some 800 traffic fatalities on 300 miles of thoroughfare, was made to determine the amount of illumination necessary to provide adequate visibility for the motorist.

The streets were separated into two classifications, one according to width and the other according to the amount of illumination on the street surface. Then, with the number of night and day fatalities, length of streets and years of operation, and before and after improved lighting, engineers were able to evaluate night and day accidents on a comparable basis of fatalities per mile, per year, per foot width of street, as against the effective illumination on the pavement measured in lumens per square foot.

We found that the lowest night fatality rate occurred on those streets which had at least 0.75 lumen per square foot. Therefore, we feel that we have not reached the optimum results from street lighting on any street now illuminated at a lower level. Detroit traffic thoroughfares are being lighted to the intensities of 0.8 to 1.2 lumens per square foot of pavement, as determined from these studies to be adequate and economical.

So impressive have been Detroit's traffic accident records during the country's first year of war, that the city was awarded a special first prize by the National Safety Council this year in that worthy organization's annual traffic safety contest for cities of more than 500,000 population.



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Prepared by
FRANK B. WILLIAMS
Author of "The Law of City Planning and Zoning"

Zoning and Planning Notes

With the cooperation of
ALBERT S. BARD
Counsel,
National Roadside Council

Zoning Amendment

MASSACHUSETTS.—*Pitman* v. *City of Medford*, Supreme Court, December 20, 1942, reported 45 N. E. (2d) 973.

In denying the contention that a party who merely held options to purchase the land involved in this suit did not have sufficient interest to enable him to apply to the Board of Aldermen of the city to amend its zoning ordinance, the Court in this case says that "every citizen acting in good faith has the undoubted right to petition the legislative branch of the city government to change an ordinance and to advance by fair and honorable means the advantages that he believes will accrue from the adoption of the proposed change."

Residential Zoning District—Home Occupations

NEW JERSEY.—*Lemp* v. *Township of Millburn*, Supreme Court, November 23, 1942, reported 28 Atl. (2d) 767.

A dressmaker by the name of Lemp was engaged in the business of custom dressmaking at her home in a residential zoning district. In this business she employed two persons to assist her, neither of whom lived there. The zoning ordinance prohibits the use of buildings in the residential district in question for commercial purposes, with some exceptions, one of which is that the occupation be "conducted" solely by resident occupants of the building.

Lemp contends that the word "conduct" as used in the ordinance means direct, manage, and as, admittedly, the business was under her sole direction and management, it could lawfully be carried on by her and her non-resident assistants. The court, however, overruled this contention, holding it to be a misconstruction of the ordinance, saying

"This would permit the employment of an almost unlimited number of persons and the carrying on of a business of considerable size in a residential zone as long as the person managing it lived on the premises. This is not the purpose of the exception. It was to permit light occupations in the home which did not change the character of the building from a home to a business or industrial establishment. The general classification is that of 'home occupations.' We think the clear intent is that occupations in which only occupants of the home take part may be carried on in residential districts."

Non-Conforming Use—Destruction by Fire—Reconstruction

NEW YORK.—*Village of North Hornell* v. *Rauber*, Supreme Court, Steuben County, April 10, 1943.

The zoning ordinance of the Village of North Hornell provides that:

"If a non-conforming building or use . . . is destroyed by fire . . . to the extent of more than 75 per cent of its assessed valuation, such building shall not again be rebuilt except in conformity with the rules and regulations of the district in which . . . the building is located."

Rauber was the owner of a mill, with machinery, tools, and equipment, in a residential zoning district in the village. The true value of the mill and fixtures was $1,500. The property was assessed at $300. It was destroyed by fire to the extent of more than 75 per cent of its assessed value, but of less than 25 per cent of its true value. The question before the court is whether the owner is bound by the assessed value and may be enjoined from rebuilding, or the true value shall prevail and he be allowed to reconstruct his mill.

The court holds that he may rebuild, saying that Rauber had a vested right of which he would be illegally deprived if the assessed value instead of the real value were binding. The reasonableness of this ordinance in a particular case must be decided upon the basis of the real facts. The court cannot be stopped by anything contained in it from deciding whether its operation is confiscatory. The reference to assessed valuation in the ordinance does not render less oppressive a deprivation of property without due process of law where the assessed valuation is beneath the true value.

EDITOR'S NOTE.—It is the policy of the zoning law to eliminate or lessen the non-conforming use in so far as this can be done with justice to the owner of the non-conforming building.

It has been said that structures erected according to law, even if out of place, should be allowed to stand indefinitely. The implications of this statement may be carried too far. Non-conforming uses have been abolished in this country without compensation with the approval of our courts,* and the policy of doing so to a greater extent is nowadays often advocated. The Court in the present case intimates that the owner of a building put to such a use, has a vested property right in that use; but perhaps it would be more accurate to say that his right is not to be subjected to unreasonable treatment. Thus it was urged in New York City recently that if the owner of a garage in the wrong place were given an opportunity to amortize, he could not successfully claim to be unjustly treated if, at the end of a period of amortization, his license was revoked. Be that as it may, the amendments to the city's zoning resolution founded on that theory did not find favor with the Board of Estimate and were not adopted.

* Hadachech v. Sebastian, 239 U. S. 394 (1913); Dema Realty Co. v. Jacoby, 168 La. 752 (1929); Dema Realty Co. v. McDonald, 168 La. 172 (1929).

Portion of Planning and Zoning Act Unconstitutional—Effect Upon Remainder—Delegation of Legislative Powers—Classification

MISSOURI.—*State* v. *Loesch*, Supreme Court, March 29, 1943, reported 169 S. W. (2d) 675.

The State of Missouri passed an act authorizing certain county courts to provide for the preparation and execution of a county plan and to appoint a planning commission for this purpose. The constitution in Missouri, as in some other States, gives certain administrative duties to county courts.

The County Court of the County of St. Louis, under this act, accordingly appointed Loesch and others, planning commissioners, and the commission began to perform its duties as such.

The prosecuting attorney for the county claims that the act is unconstitutional for several reasons and asks for the ouster of the commission. The State Constitution provides that no county officer shall be appointed for a term to exceed four years; and the act in question provides for a term of six years for these commissioners. This provision is unconstitutional, but where the purpose of a statute can be accomplished without the portion of it that is unconstitutional, the good portions will stand, unless it is apparent that the Legislature would not have enacted the law without the bad portion. The court holds that this is not so in this case and that the unconstitutional provision does not void the rest of the act.

Where a statute provides for a longer term of office than the Constitution permits, it is usually held valid as to the term permitted by the Constitution and void as to the excess. The planning commissioners, therefore, are in this case held by the court to be validly appointed for a term of four years.

It is next claimed that the act is a delegation of legislative powers in that it authorizes the County Court to create a public office; but in fact the law potentially created the offices in this case, to come into actuality upon the naming of the incumbents, as the County Court has done.

Nor is the passing of rules and regulations, as the law gives the power to do, a delegation of legislative powers; such rules merely fill in the details of a duly enacted law, as the Legislature could not be expected to do itself. And the power to make rules is not the power to declare their violation a misdemeanor; this the law has itself done in this case.

The prosecutor next contends that since the statute is applicable to a county in

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which, or in a county adjacent to which, there are cantonments or war plants of the United States Army, except counties of a population of 400,000 or over, it is special legislation. The court, however, considers it valid classification. Conditions in the one class of county may be quite different from those in another.

The prosecutor also overlooks the provision of the law that the general plan must be approved by the State Planning Board, State Health Commissioner, and chief engineer of the Highway Department, which to a certain extent insures uniformity.

It is also urged that the mere fact that there is an Army cantonment in the county, or the adjoining county, is not a basis of valid classification; but providing for the health and welfare of a rapidly growing community caused by the locating of the Army camp was the very purpose for which the law was enacted.

Finally, it is pointed out that the act excludes from its operation counties having a population between 400,000 and 600,000, and that such counties have at least as much need for the legislation in question as counties with a smaller population which adjoin a county in which a cantonment or war industry is located.

In this the Court agrees; and, as has already been held, "a law may not include less than all who are similarly situated. If it does, it is special, and therefore invalid, because it omits a part of those which in the nature of things the reason of the law includes."

But in the same session in which the legislature passed this law, it enacted a similar law applicable to counties having a population of from 400,000 to 600,000. The two acts are practically identical; so that if the acts are considered together, the legislature has given substantially the same law to all counties affected by the war industries.

The Court rules that the two acts may be so considered and that the act now challenged is therefore valid. The judiciary cannot dictate to the legislative branch of the government in the question of the propriety of dividing laws on the same subject into separate articles or sections, even though it may think that the whole law on the subject matter could well have been embodied in one act.

What the Billboard Industry Calls Freedom from Discrimination

A bill has been introduced in the California Senate (No. 714), one of the clauses of which provides:

"The placing of advertising displays shall be considered a permitted use in all areas or districts established by any county zoning ordinance in which any other commercial activities are permitted."

In effect this bill says: Although county zoning may distinguish between any and all other classes of business, admitting some and excluding others according to their nature, this power of classification shall not extend to outdoor advertising. That one business shall have a unique position among all businesses, and must be admitted wherever any kind of business is allowed, whether appropriate or not.

This extraordinary bill is a denial of the whole principle of zoning. Claiming, as the billboard people so often do, that they are discriminated against, they now ask for extreme discrimination in their favor.

The successful precedent of the recent Vermont billboard case, where New York officials intervened in a matter of common and general interest, although only a local statute was the occasion, would seem to make it appropriate for other States to appeal to California to kill the proposal.

Clarion Call by Mayors

POINTING out that in periods such as this a people must live greatly or fail miserably, the Canadian Federation of Mayors and Municipalities has adopted a ringing appeal for solidarity, tolerance, and understanding among all sections of the community.

From the text of the Declaration, as published in the June 12 issue of the Federation's bulletin, *The Listening Post*, the following significant paragraphs are quoted:

"We pledge ourselves to so exercise the responsibility of our office that the institution of local government may the better serve the well-being of the community and prosper the aspirations of the Commonwealth. . . .

"To those entrusted with the responsibility of representing our communities in the higher councils of the nation, we say the time has come for bold and forthright action if we are to grapple effectively with the crisis of today; and plan courageously for the problems of tomorrow. . . .

"We believe the time has come to sound a clarion call to the nation summoning it to the mighty task of creating here in Canada a better social order. Clearly the very sinew of our war effort will be affected by the goals towards which that effort is directed. The goal of victory and the tasks of peace are one and indivisible."

City Manager Appointments

F. R. BUTCHNER was reinstated as city manager of Superior, Wisconsin, on May 20.

CLAYTON CONRAD, a former mayor, succeeded O. O. Johnson at Three Rivers, Michigan, on June 1.

G. E. HORNE, former city clerk, was appointed city manager of Tecumseh, Oklahoma, to succeed Clyde G. Pitman who resigned to become district judge.

R. DAVID MABEN, JR., who has been acting manager since January became city manager of Blackstone, Virginia, on April 5. He succeeds C. H. Hardy, deceased.

SHERRILL P. NELSON, sanitary engineer of Ottawa County, Michigan, was appointed city manager of Grand Haven on June 7. He succeeds Seymour Justema.

WALTER E. NUSSBAUM has been appointed first borough manager of Lehighton, Pennsylvania.

WALTER H. SACK, former assistant manager, became city manager of Grand Rapids, Michigan, on May 3. He succeeded Peter A. Kammeraad who resigned to enter private business.

K. B. TANNER has been appointed city manager of Eastland, Texas, effective May 15. He succeeds M. H. Kelly, deceased.

CLARENCE E. RIDLEY,
Executive Director, International City Managers' Association.

Municipal Bond Market

Some recent sales of new issues as reported in June issues of *The Bond Buyer*:

Amount	Borrower and Purpose	Rate (%)	Term (Years)	Basis (%)
$300,000	Franklin Co., Ohio, Reassessing Real Property	1.0	3 Avg.	0.869
105,000	Council Bluffs, Ia., Flood Protection	1.25	4-33-8-33 O.-A.	1.07
1,000,000	Pittsburgh, Pa., General Public Improvement and Refunding—1943	1.25	1.20 Ser.	1.126
130,000	Bronxville, N. Y., Refunding of 1943	1.20	9 Avg.	1.153
242,000	Middlesex Co., N. J., Improvement	1.25	8 Avg.	1.205
1,500,000	Allegheny Co., Pa., Road; Park; Veterans' Cemetery	1.25	14.5 Avg.	1.23
440,000	West Virginia, Road	1.25	19.85 Avg.	1.302
570,000	Akron, Ohio, Refunding	1.5	5.75 Avg.	1.43
750,000	Yonkers, N. Y., Refunding of 1943	1.75	7.66 Avg.	1.73
134,000	Osceola, Fla., Special Tax School Dist. No. 1, Refunding	3.5	7.66-10 O.-A.	3.5
134,424	Panama City, Fla., Refunding	4.0	14-17-29-17 Opt.	4.19

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Municipal Law Notes and Decisions

Prepared by National Institute of Municipal Law Officers, Washington, D. C.
Charles S. Rhyne, Executive Director

Automobile Trailers—Ordinance Regulating

Ordinance dealing with parking of occupied or unoccupied trailer coaches which requires license fee of $5 for each 600 square feet of unoccupied space and which makes it unlawful, except for repair, to remove wheels or permanently fix trailer to the ground is not unconstitutional as being unreasonable or confiscatory. *White* v. *City of Richmond*, 169 S. W. (2d) 315 (Ky. March 2, 1943).

Bonds—Liability of Contractor's Surety for Goods Furnished Subcontractor in Constructing Town Hall

Materialman who sold materials to subcontractor for construction of a town hall cannot recover on a bond given to the Town of Smithfield by building contractor which requires contractor to pay for materials furnished in prosecution of work, since goods were delivered for sole use of subcontractor who had been paid in full by contractor. *Providence Pipe and Sprinkler Co.* v. *Aetna Casualty and Surety Co.*, 31 Atl. (2d) 1 (R. I. March 5, 1943).

Civil Service—Reinstatement of Discharged Policeman—Right Under New Law Where Old Abolished

Discharged policemen of Panama City are not entitled to reinstatement because of illegal suspension where civil service law under which they were employed was expressly repealed after their discharge and at same time a companion act set up a new civil service system identical to old, as repeal of old law ended their rights to the office. *State ex rel. McIver* v. *Swank*, 12 So. (2d) 605 (Fla. March 19, 1943. Reh. Den. April 5, 1943).

Dogs—Infant Bitten by—Control of as Governmental Function

An infant cannot recover from county for injuries received when attacked and bitten by a pack of dogs running at large on a non-public highway where county dog law made county only liable for property damage, and power to control dogs is governmental function for which county is not liable. *Cox* v. *Board of Com'rs. of Anne Arundel County*, 31 Atl. (2d) 179 (Md., March 16, 1943).

Drug Stores—Closing Hours Fixed as War Measure

An ordinance, passed as a war measure, is not unreasonable because it fixes closing hours for drug stores at 9 p. m. on Sunday, 11 p. m. on Saturday and 10 p. m. for balance of the week, as such a measure is designed to protect the public from dangers incident to mistakes made by overworked pharmacists. *Spiro Drug Service, Inc.* v. *Board of Com'rs of Union City*, 30 Atl. (2d) 892 (N. J. Sup. Ct. March 22, 1943).

Employees—In Federal Armed Forces—Validity of Act Granting Payments to Dependents Based on Salaries Of

Taxpayers can enjoin city from enforcing act of 1917 which provided for payments of public funds to dependents of public employees who had entered the armed forces, and which was based on employees' salaries and not on dependents' needs, as such an act is unconstitutional and discriminatory as giving gratuities to dependents of a chosen class but excluding dependents of other citizens also in the armed forces. *Kurtz* v. *City of Pittsburgh*, 31 Atl. (2d) 257 (Pa. March 22, 1943).

Fireman—Pension Rights of Widow—Reversal of Retirement Board's Findings by Court

The court may rule contrary to the findings of the Retirement Board, that widow is entitled to pension where fireman's death was due to cerebral hemorrhage, the result of severe coughing attacks which developed after the fireman had recovered from pneumonia contracted in course of employment, and where the conflicting evidence as to expert testimony is not real or substantial. *Brant* v. *Retirement Board of San Francisco*, 135 Pac. (2d) 396 (Cal. App. March 22, 1943).

Ordinance—Discrimination Against Certain Poultry Dealers—Protection of Public Health

Ordinance of New York City providing for grading of poultry and payment of grader's fees, but which applied only to dealers in city poultry terminal and not to competitors in other parts of the city, is unconstitutional as it does not have a real and substantial relation to the protection of public health and does not operate with substantial equality and uniformity. *Avon Western Corporation* v. *Woolley*, 39 N. Y. S. (2d) 653 (N. Y. Sup. Ct. N. Y. Co. Feb. 8, 1943).

Parking Meters—Ordinance Authorizing Installation—Rights of Abutting Owner

City parking ordinance requiring abutting property owner to deposit coin in meter when parking along curb in front of his property is not invalid as depriving owner of property without due process, since parking at curb is done as a member of the public, incidental to the use of the streets, and not as abutting property owner. *Andrews* v. *City of Marion*, 47 N. E. (2d) 968 (Ind. April 15, 1943).

Peddlers—Validity of Licensing Ordinance Favoring Local Laundry Business

An ordinance making it an offense for an itinerant vendor to conduct business in the city without a license and specifically including those engaged in laundry service whose cleaning operations take place outside the city is unconstitutional because it discriminates in favor of those similarly engaged, but who conduct cleaning operations within the city. *Linen Service Corporation of Texas* v. *City of Abilene*, 169 S. W. (2d) 197 (Tex. Civ. App. Feb. 19, 1943. Reh. Den. March 12, 1943).

Policemen—Reinstatement—City's Assignments of Errors on Appeal Insufficient

Where the Board of Public Works and Safety dismissed police officers and the city was ordered to reinstate the officers, an assignment of errors that the judgment was against the weight of the evidence, and was not supported by the evidence and was contrary to law, are not sufficient assignments of error to call for review, and whether the court erred in overruling a motion for a new trial will not be reviewed where the bill of exceptions is not in the record and record is insufficient to present any question for review. *City of Elwood* v. *Wilson*, 47 N. E. (2d) 165 (Ind. App. March 15, 1943).

Sewage—Deposits on Land—Burden of Comparative Injury on City

In landowner's suit against city for injunction against nuisance caused by sewage disposal on his land, question of comparative injury is defensive, and burden of raising it is on city. *Town of Frisco City* v. *Green*, 12 So. (2d) 409 (Ala. March 18, 1943).

Sewers—Liability of City for Improvement of—City Engineer's Services Not Recoverable in Quasi Contract

Civil engineer cannot recover for reasonable value of services rendered city in connection with proposed improvement of sewerage system under ordinance authorizing improvements subject to referendum by voters, inasmuch as liability is then within debt limitation of city. *Hancock* v. *Village of Hazel*, 47 N. E. (2d) 557 (Ill. App. March 22, 1943).

Special Assessments—Paving—Sewers—Failure to Make Timely Objection

Special assessments for paving and sewers in the Village of Plymouth held valid where landowners did not object to failure to consider two parcels of realty as one since landowners failed to object at time for review of assessment and paid seven of ten annual installments. *Petition of Brown, Auditor General; Auditor General* v. *Ober*, 7 N. W. (2d) 268 (Mich. Jan. 4, 1943).

Streets—Advertising Vehicles Prohibited—Covered Wagon

Power of Police Commissioner of New York City to "regulate, direct, control and restrict" traffic to prevent congestion includes the power to prohibit use of the streets by advertising vehicles. *People* v. *Berkowitz*, 39 N. Y. S. (2d) 236 (Magistrates Court of City of New York, Jan. 18, 1943).

Religion—Jehovah's Witnesses—Not Within Street Loitering Prohibition

Jehovah's Witnesses will be discharged where there is no evidence that in offering religious literature to passers-by they violated ordinances forbidding loitering and loafing on the street. *City of Olathe* v. *Laucke*, 135 Pac. (2d) 549 (Kan. April 10, 1943).

Taxation—Right of City to Levy Tax on Income Received in Areas Ceded to Federal Government

New Jersey resident, employed by Federal Government at Philadelphia Navy Yard at League Island, an area ceded by the state to the Federal Government, is taxable under city income tax ordinance, since by congressional act authority of state to tax income received in Federal area was receded to the state, and thus to the city. *Kiker* v. *City of Philadelphia*, 31 Atl. (2d) 289 (Pa. March 29, 1943).

Utilities—Payment by City for Water and Sewerage System Service

An owner who installs sewerage and water system at own expense to induce purchase of lots, and who represents to purchasers that assessments for system are included in purchase price, cannot in sale of system to city claim compensations for fire hydrant and storm sewer services as full and exclusive owner. *Country Club District Service Co.* v. *Village of Edina*, 8 N. W. (2d) 321 (Minn., Jan. 2, 1943).

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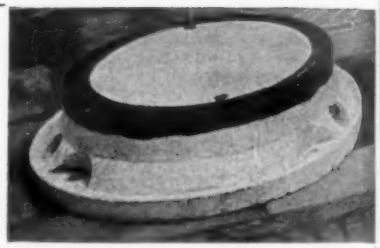

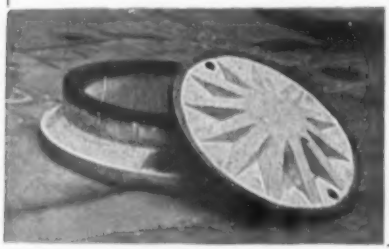

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Conventions—When and Where

July 11-16—Dallas, Tex.
SOUTHWESTERN CHAMBER OF COMMERCE INSTITUTE. (Hotel Adolphus.) Roger Miller, Mgr., Chamber of Commerce Bldg., Dallas, Texas.

July 19-20—Harrisburg, Pa.
PENNSYLVANIA CHIEFS OF POLICE ASSOCIATION. War Conference. (Hotel Penn-Harris.) Sec., F. B. Titus, Lansdowne, Pa.

July 25-31—Missoula, Mont.
ROCKY MOUNTAIN INSTITUTE FOR COMMERCIAL ORGANIZATION EXECUTIVES. (Montana State University Campus.) Sec.-Treas., Donald Marcellus, 1445 Rand Tower, Minneapolis, Minn.

July 28-30—Los Angeles, Calif.
AMERICAN SOCIETY OF CIVIL ENGINEERS. Annual Convention. (Hotel Biltmore.) Sec., George T. Seabury, 33 West 39th St., New York.

August 9-11—Detroit, Mich.
INTERNATIONAL ASSOCIATION OF CHIEFS OF POLICE. 50th Annual Conference, Second War Conference. (Hotel Statler.) Exec. Sec., Edward J. Kelly, 918 F St., N.W., Washington, D. C.

***August 11-13—Raleigh, N. C.**
NORTH CAROLINA LEAGUE OF MUNICIPALITIES. Annual Convention. (Sir Walter Hotel.) Acting Exec. Sec., Mrs. Davetta L. Steed, 704 Raleigh Bldg., Raleigh, N. C.

August 15-21—Evanston, Ill.
NATIONAL INSTITUTE FOR COMMERCIAL AND TRADE ORGANIZATION EXECUTIVES. Annual Session. (Northwestern University.) Sec.-Treas., Clarence R. Miles, 38 S. Dearborn St., Chicago, Ill.

August 16-18—Cedar Rapids, Iowa
LEAGUE OF IOWA MUNICIPALITIES. Annual Convention. (Hotel Montrose.) Sec.-Treas., Frank G. Pierce, Marshalltown, Iowa.

August 31-Sept. 3—Chicago, Ill.
INTERNATIONAL ASSOCIATION OF FIRE CHIEFS. Annual Convention. (Palmer House.) Sec., Daniel B. Tierney, 8 Robbins Rd., Arlington, Mass.

***Sept. 2-3—Ogden City, Utah**
MUNICIPAL LEAGUE OF UTAH. Thirty-Sixth Annual Convention. (Hotel Ben Lomond.) Sec., Tom McCoy, Public Safety Bldg., Salt Lake City, Utah.

Sept. 10-14—Chicago, Ill.
INTERNATIONAL CITY MANAGERS' ASSOCIATION. Annual Conference. (Edgewater Beach Hotel.) Dir., Clarence E. Ridley, 1313 E. 60th St., Chicago, Ill.

***Sept. 14-15—Milwaukee, Wis.**
WISCONSIN CHIEFS OF POLICE ASSOCIATION. Annual Conference. (Hotel Pfister.) Sec., R. K. McCarty, Kaukauna, Wis.

Sept. 13-17—Lake Placid, N. Y.
MUNICIPAL ELECTRIC UTILITIES ASSOCIATION OF NEW YORK STATE. Annual Conference. (Lake Placid Club.) Sec., T. J. McKee, 200-212 East Third St., Jamestown, N. Y.

Sept. 16-17—Denver, Colo.
AMERICAN WATER WORKS ASSOCIATION—ROCKY MOUNTAIN SECTION. Annual Meeting and Wartime Conference. (Hotel Cosmopolitan.) Sec., O. J. Ripple, Superintendent Filtration, Littleton, Colo.

***Sept. 19-22—Chicago, Ill.**
AMERICAN CEMETERY OWNERS' ASSOCIATION. Annual Business Meeting. (Hotel Morrison.) Vice-Pres., Roy Hatten, 408 South Oak Park Ave., Oak Park, Ill.

***Sept. 20-22—Wichita, Kans.**
LEAGUE OF KANSAS MUNICIPALITIES. (Hotel Broadview.) Exec. Sec., John G. Stutz, Capitol Federal Bldg., Topeka, Kans.

Sept. 21-24—San Francisco, Calif.
LEAGUE OF CALIFORNIA CITIES. Annual Conference. Sec.-Treas., Chas. Schwanenberg, City Manager, Oakland, Calif.

Sept. 22-25—Pittsburgh, Pa.
AMERICAN WATER WORKS ASSOCIATION—WESTERN PENNSYLVANIA SECTION. Annual Meeting. (Hotel Roosevelt.) Sec., E. P. Johnson, 418 Hannery Bldg.—Station 13, Pittsburgh, Pa.

Sept. 26-28—Roanoke, Va.
LEAGUE OF VIRGINIA MUNICIPALITIES. Annual Convention. (Hotel Roanoke.) Exec. Sec., Harold I. Baumes, 902 Travelers Bldg., Richmond, Va.

Sept. 28-29—Boston, Mass.
NEW ENGLAND WATER WORKS ASSOCIATION. Annual Meeting. (Hotel Statler.) Sec., Frank J. Gifford, 613 Statler Bldg., Boston, Mass.

***Sept. 29-Oct. 1—Chicago, Ill.**
NATIONAL ASSOCIATION OF ASSESSING OFFICERS. Tenth National Conference on Assessment Administration. (Hotel Morrison.) Exec. Dir., Albert W. Noonan, 1313 E. 60th St., Chicago, Ill.

***Sept. 30-Oct. 1—Binghamton, N. Y.**
AMERICAN WATER WORKS ASSOCIATION—NEW YORK SECTION. Fall War Conference. (Hotel Arlington.) Sec.-Treas., R. K. Blanchard, 50 W. 50th St., New York, N. Y.

Oct. 5-7—Chicago, Ill.
NATIONAL SAFETY COUNCIL. 32nd National Safety Congress & Exposition. (Hotels Sherman, LaSalle & Morrison.) Exec. Vice-Pres., Ned H. Dearborn, 20 North Wacker Drive, Chicago, Ill.

Oct. 11-13—Oklahoma City, Okla.
AMERICAN WATER WORKS ASSOCIATION—SOUTHWEST SECTION. Wartime Conference. (Hotel Biltmore.) Sec., George J. Rohan, Supt. Water Works, Municipal Bldg., Waco, Texas.

***Oct. 12-13—Des Moines, Iowa**
AMERICAN WATER WORKS ASSOCIATION—MISSOURI VALLEY SECTION. Sec., Earle L. Waterman, Room 104, Engineering Hall, University of Iowa, Iowa City, Iowa.

Oct. 12-14—New York, N. Y.
AMERICAN PUBLIC HEALTH ASSOCIATION. Wartime Public Health Conference and 72nd Annual Business Meeting. (Hotel Pennsylvania.) Exec. Sec., Dr. Reginald W. Atwater, 1790 Broadway, New York, N. Y.

Oct. 12-14—St. Louis, Mo.
CIVIL SERVICE ASSEMBLY OF THE UNITED STATES AND CANADA. Annual Conference on Public Personnel Administration. (Hotel Statler.) Dir., James M. Mitchell, 1313 E. 60th St., Chicago, Ill.

***Oct. 15—New York, N. Y.**
ILLUMINATING ENGINEERING SOCIETY. Annual Meeting. (Hotel New Yorker.) Exec. Sec., Frank G. Horton, 51 Madison Ave., New York, N. Y.

Oct. 19-20—Milwaukee, Wis.
AMERICAN WATER WORKS ASSOCIATION—WISCONSIN SECTION. Wartime Water Works Conference. (Hotel Plankinton.) Sec., Leon A. Smith, City Hall, Madison, Wis.

***Oct. 21—Springfield, Ill.**
ILLINOIS ASSOCIATION OF PARK DISTRICTS. Sixteenth Annual Convention. Exec. Dir., A. D. McLarty, 537 E. 4th St., Springfield, Ill.

Oct. 21-23—Chicago, Ill.
FEDERATION OF SEWAGE WORKS ASSOCIATION. Wartime Sanitation Conference; Joint Meeting with the Central States Sewage Works Assn. (Hotel Sherman.) Sec., W. H. Wisely, Box 18, Urbana, Ill.

Oct. 21-23—Chicago, Ill.
CENTRAL STATES SEWAGE WORKS ASSOCIATION. Joint Meeting with the Wartime Sanitation Conference of The Federation of Sewage Works Association. (Hotel Sherman.) Sec.-Treas., J. C. Mackin, Route 4, Madison, Wis.

Oct. 24-27—Chicago, Ill.
AMERICAN PUBLIC WORKS ASSOCIATION. Annual Meeting and 1943 Public Works Congress. (Hotel Sherman.) Exec. Dir., Norman Helsden, 1313 E. 60th St., Chicago, Ill.

Oct. 24-27—Pittsburgh, Pa.
NATIONAL ASSOCIATION OF COMMERCIAL ORGANIZATION SECRETARIES. War Conference. (Hotel William Penn.) Asst. Sec.-Treas., Mrs. Norma McKellops, 1615 H St., N. W., Washington, D. C.

Oct. 27-29—Chicago, Ill.
THE AMERICAN MUNICIPAL ASSOCIATION. Annual Conference. (Hotel Blackstone.) Exec. Dir., Earl D. Mallery, 1313 E. 60th St., Chicago, Ill.

Oct. 27-29—Los Angeles, Calif.
AMERICAN WATER WORKS ASSOCIATION—CALIFORNIA SECTION. Annual Meeting. (Hotel Biltmore.) Sec., H. Arthur Price, Box 3669, Terminal Annex, Los Angeles, Calif.

Oct. 28-29—Niagara Falls, Ont., Canada
THE CANADIAN INSTITUTE ON SEWAGE AND SANITATION. Annual Convention. (Hotel General Brock.) Sec.-Treas., Dr. A. E. Berry, Dept. of Health, Parliament Bldg., Toronto, Ont., Canada.

***Nov. 18-19—New York, N. Y.**
NEW JERSEY STATE LEAGUE OF MUNICIPALITIES. Annual Conference. (Hotel New Yorker.) Exec. Sec., James J. Smith, 808 Trenton Trust Bldg., Trenton, N. J.

***Nov. 20-22—Chicago, Ill.**
NATIONAL TAX ASSOCIATION. Annual Conference. (Palmer House.) Sec., Raymond E. Manning, Library of Congress, Washington, D. C.

***Nov. 29-Dec. 3—New York, N. Y.**
THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS. Annual Meeting. (Hotel Pennsylvania.) Exec. Asst. Sec., Ernest Hartford, 29 W. 39th St., New York, N. Y.

Recreation as a Wartime Aid

Whole-hearted response of local recreation authorities to wartime needs is indicated in the Recreation Year Book for 1942, published last month by the National Recreation Association. During the first year of the war, according to the Association's survey, 261 cities provided special recreation for men in the armed forces through their municipal recreation agencies, and 271 cities made similar provision for war workers.

Active games and sports retained their place at the top of the list of recreation activities, with softball, baseball, tennis, horseshoes, and swimming leading all others according to the number of cities reporting them. Wartime influence was noted in the expanding programs of gardening, first-aid classes, and athletic and swimming badge tests.

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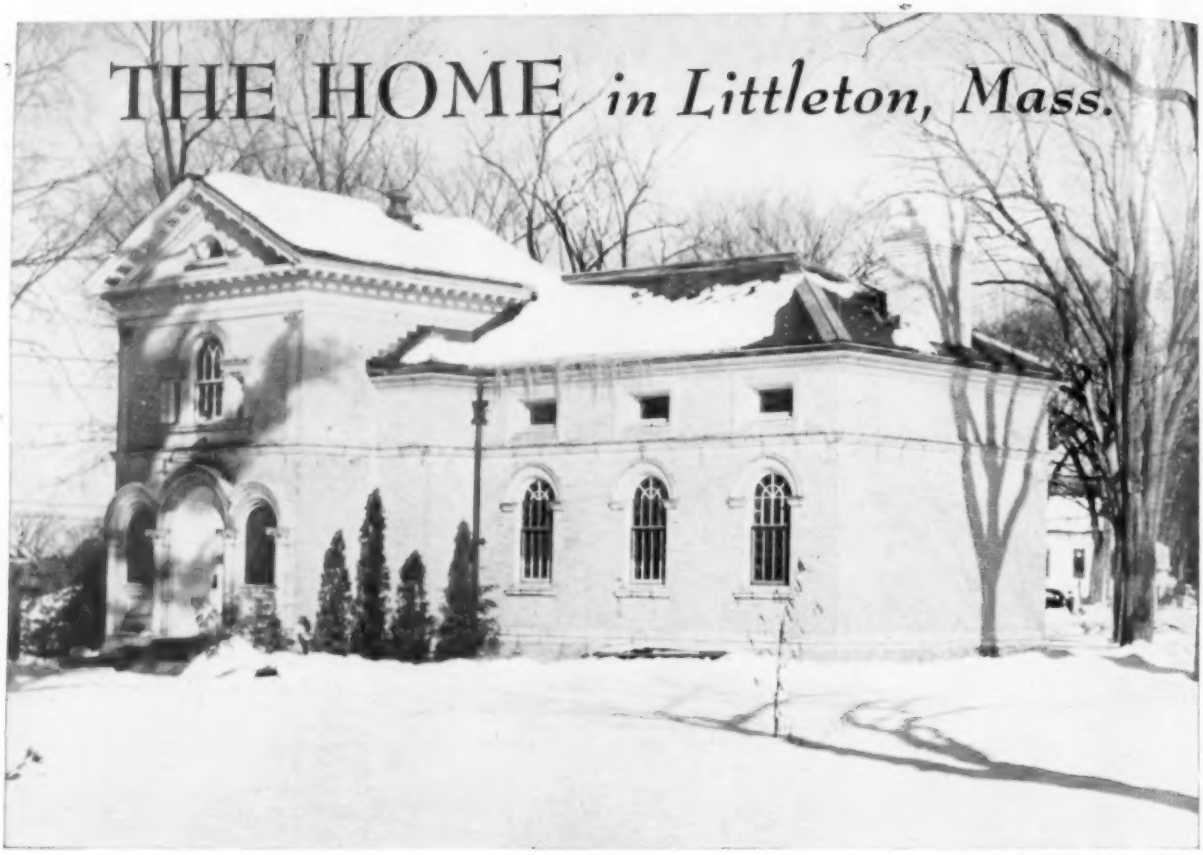

Library, Littleton, Mass.

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The responsible individual attention which HOME agents and engineers accord the hundreds of properties of a great municipality is of the same quality in a village. As the result of a survey made of Littleton, Mass., municipal properties one year ago, the amount of insurance on the Town Hall was increased from $20,000 to $35,000. The change was made on the recommendations of one of our engineers. On March 13, 1943, the building burned and the town collected $35,000 which was the amount of insurance carried to cover this building.

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THE HOME INDEMNITY COMPANY

Municipal and Civic Publications

Municipal Government Information

The Municipal Year Book—1943.—Clarence E. Ridley and Orin F. Nolting, Editors. The International City Managers' Association, Chicago, Ill. 1943. x + 603 pp. $8.50.

The purpose of the 1943 edition of The Municipal Year Book is to provide municipal officials with up-to-date facts, figures, and analyses of trends as a basis for their thinking and action. A new feature is a series of charts indicating various municipal trends. The Year Book also includes new information on municipal revenues, local defense activities, personnel, police and fire, substitute materials, and public housing.

The regular features that have been included in this new edition are a map section, governmental data for all cities over 5,000 population, reviews of developments in various fields of municipal activity in 1942, detailed statistics for fire and police departments, personnel data for cities over 10,000, and lists of new publications, model ordinances, important court decisions, etc.

Contains a detailed index which includes references to materials appearing in the nine preceding issues but not repeated in the 1943 edition.

An authoritative source of information on municipal government in this country, and an invaluable reference work for all those engaged in, or interested in, municipal affairs.

History of Uniform Traffic Control Code

The Evolution of a "Uniform Road Traffic Control Code with Safety Rules for Pedestrians."—Eno Foundation for Highway Traffic Control, Inc., Saugatuck, Conn. 1943. 28 pp.

Tells the story of the development of The Eno Foundation traffic control code; presents the 1943 revised uniform traffic control code, including safety rules for pedestrians, the adoption of which the Foundation strongly advocates; and gives a historical synopsis of the work in traffic control accomplished by this Foundation from 1899 to 1943.

Business Development

New Haven, Conn.—James W. Hook Tells Why It's a Good Place to Live and Work.—New Haven Chamber of Commerce, New Haven, Conn. 1943. 4 pp., folder.

The first of a series of brochures outlining New Haven's advantages for many different types of industrial, distributive, and service institutions. This one is written by a New Haven citizen who tells how his business has flourished there under both peace and wartime conditions.

War Information Films

A list of U. S. War Information Films.—Office of War Information, Bureau of Motion Pictures, Washington, D. C. 1943. 28 pp.

An annotated list of the films available from the various government agencies and branches of the armed forces, and the distributors from whom these films may be obtained. Gives the length, date of issuance, and a brief description of each film.

Engineering Standards

American Standards.—American Standards Association, 29 W. 39th St., New York City. 1943. 20 pp.

A listing of 600 standards (94 of which represent new and revised standards approved since the August 1942 issue) which reach into every important engineering field and serve as a basis for many municipal, state, and Federal regulations. Gives a price list of American standards, lists safety and war standards, and provides an alphabetical index.

Post-War Planning, Baltimore

Baltimore Plan.—Baltimore Committee for Post-War Planning, Baltimore, Md. 1943. 23 pp.

This is the first report to the Mayor of Baltimore by a citizens' committee which is planning for the post-war period. It summarizes the reasons for a Baltimore Post-War Committee, describes the post-war condition that this committee seeks to meet, and outlines the steps necessary to meet it. Discusses such projects as the port of Baltimore, commercial aviation, and eliminating substandard housing, as well as such questions as governmental attitude, reserves, and deferred maintenance. (See also p. 5 of this issue.)

City Tax Delinquency

Trend of Tax Delinquency, 1930-1942.—By Frederick L. Bird. Dun and Bradstreet, Inc., Municipal Service Department, 290 Broadway, New York City. 1943. 34 pp., offset.

An annual compilation of data on property tax delinquency in cities of 50,000 population, which is convenient as a reference work for persons engaged in the administration and study of municipal finance. Numerous tables and charts. (See also p. 40 of this issue.)

Post-War Public Works

Suggested Program for the Creation of Reservoir of Post-War Public Works by Maine Municipalities.—Prepared by Philip S. Habermann, Executive Secretary, Maine Municipal Association, Hallowell, Maine. 1943. 8 pp., mimeo.

A proposal, in tentative or suggested form, submitted in an effort to set the wheels in motion for state and local cooperation in the matter of creating a reservoir of public works which can be undertaken immediately after the war. In order to assist the communities of the state of Maine desiring to prepare such long-range programs, an outline of the steps necessary are provided and instructions are given for the preparation of a prospectus of a proposed public improvement project.

Crime Prevention

Social Defenses Against Crime.—Edited by Marjorie Bell. National Probation Association, 1790 Broadway, New York City. 346 pp. $1.25.

This 1942 Yearbook presents the papers given at the annual conference of the National Probation Association at New Orleans in May 1942. The subjects covered are: crime and the community, delinquency in wartime, scope and place of the juvenile court, services for the unadjusted child, administration of adult services, and staff training. A digest of legislation and decisions affecting probation, parole, and juvenile courts in 1942, is also included. The conference reflected a trend toward closer cooperation of all forces dealing with delinquency and crime, and emphasized the necessity for marshalling our social resources and stepping up our defenses to prevent an increase in crime in this dangerous period.

The Past Year in Housing

Housing Yearbook—1943.—Edited by Hugh R. Pomeroy and Edmond H. Hoben. National Association of Housing Officials, 1313 E. 60th St., Chicago, Ill. 1943. vii + 159 pp. $3.00.

This Yearbook contains a series of articles submitted by Federal agencies reporting activities of the past year pertaining to housing; a comprehensive review of the housing year, intended to serve in part as a substitute for reports of state or local activities, and in part to pull together and view with some perspective the activities reported in the articles; and a directory of housing agencies in which a few changes have been made to increase its usefulness for reference purposes.

Civic Principles

Principles of Civic Organization.—By Russell H. Ewing. Department of Political Science, University of North Carolina, Chapel Hill, N. C. 1943. 14 pp., mimeo. 35c

An article synthesizing a forthcoming volume written by social scientists representing colleges and universities, governmental research bureaus, and civic organizations. Briefly describes sixteen fundamental civic principles which provide a standard for measuring the quality of civic life and leaders of a community, and which may be used as a guide to anyone desiring to establish a central civic organization.

License Taxes

License Tax Schedule for North Carolina Cities and Towns—1943.—By George C. Franklin, Attorney-Consultant, North Carolina League of Municipalities, Raleigh, N. C. 1943. 24 pp., mimeo. 50c (One copy free to each member municipality).

This schedule of license taxes carries the maximum license tax which any city or town of a given population may impose on the businesses and trades listed in the North Carolina State Revenue Act. Certain businesses and trades not listed in the State Revenue Act are shown in the same alphabetical sequence, and these are marked with an asterisk for purposes of distinction.

School Buildings and Grounds

The American School and University.—American School Publishing Corp., 470 Fourth Ave., New York City. Fifteenth Annual Edition, 1943. 377 pp. $2.50.

This book should be on the shelf of all persons concerned with school building, planning, and operation. This volume contains several articles which should be of interest to municipal officials, such as: "Community Schools Built in Wartime: Yardsticks by Which We May Measure Progress," which describes the plan of the school building for the Vallejo Project in California; "The Community Will Use Tomorrow's Schools," which contains a checklist of requirements for a school planned for community use; "Suburban School Building After the War;" "Children's Centers and the Future," which provides a thought-provoking introduction to nursery-school planning; and "Better Lawns for Schools and Colleges," which is a "must" for park departments.

In addition to many other articles on school design, the book includes sections on operation and maintenance, physical education and athletics, classrooms and administrative offices, home economics, cafeterias and dining halls, laboratory design and equipment, shop planning and equipment, and lists of architects for educational buildings, landscape architects for university and school projects, and mechanical and electrical engineering consultants.

Industrial Health Problems

Manual of Industrial Hygiene and Medical Service in War Industries.—William M. Gafafer, D. Sc., Editor. Issued under the auspices of the Committee on Industrial Medicine of the Division of Medical Sciences of the National Research Council. Prepared by the Division of Industrial Hygiene, National Institute of Health, United States Public Health Service. W. B. Saunders Co., Philadelphia. 1943. xi + 508 pp. $3.00.

Manual providing authoritative guidance in dealing with industrial health hazards. Emphasizes the control of occupational diseases and gives guidance in diagnosis and treatment. Intended for the general medical profession, industrial and public health nurses, industrial physicians, engineers, hygienists, and all who deal with war worker health problems.

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Water and Sewage Analysis

Laboratory Manual for Chemical and Bacterial Analysis of Water and Sewage.—By Frank R. Theroux, M.C.E., Associate Professor of Civil Engineering, Michigan State College, Edward F. Eldridge, M.S., Associate Research Associate, Michigan State College, and W. LeRoy Mallmann, Ph.D., Professor of Bacteriology, Michigan State College. McGraw-Hill Book Co., Inc. New York. Third Edition, 1943. x + 274 pp. $3.00.

Book containing specific directions, in outline form, for making the chemical determinations necessary for the control of water and sewage-treatment plants, the analysis of polluted water, and the examination of industrial wastes. Also includes methods of sampling, laboratory technique, a discussion of the chemistry involved, and interpretation of results and related topics. This manual should be useful to those engaged in water and sewage plant operation, plant chemists, sanitary engineers, and colleges and universities.

Symbols for Maps and Plans

Map Symbols and Scales.—Report to the New York Federation of Official Planning Boards, prepared by Dorothy W. Schroeder, Bureau of Planning. New York State Executive Department, Division of Commerce, Albany, N. Y. 1943. 32 *pp., offset.*

Report containing a suggested set of symbols for local maps and plans. Some attention also given to map scales, color reproduction, and other matters related to map preparation, as previously discussed by the N. Y. State Federation of Official Planning Boards.

Bibliography on Density

A Selected List of References on Density of Development.—Compiled by Katherine McNamara, Librarian, Library of the Departments of Landscape Architecture and Regional Planning, Harvard University. 1943. 3 *pp., mimeo.*

About 35 book, pamphlet, and periodical references on the subject of density standards and spaciousness. Most of material listed has come out within the last eight years.

Public Service Program for Youth

Youth in the Public Service.—Prepared by Ruth Macfarlane. Division of Student Work, National Youth Administration for California, 2328 W. Seventh St., Los Angeles, Calif. 1943. 23 *pp., offset.*

Report describing the public service program undertaken by the National Youth Administration of California during the past year and a half. Reports on the results of this plan, which consisted of the off-campus assignment of carefully selected NYA college and graduate students to public and quasi-public agencies.

Intergovernmental Fiscal Relations

Constitutionality of Withholding Provisions in Taxing Acts of the Federal Government as Applied to States and Their Municipalities and Instrumentalities.—Prepared by Albert E. James. National Institute of Municipal Law Officers, 730 Jackson Place, Washington, D. C. 1943. 13 *pp., mimeo.* $2.00.

Discussion of the extent to which the Federal Government may, within the scope of fundamental law, impose administrative burdens upon the states and their subdivisions in aid of its own administrative process and of the methods of resisting the "attack upon the sovereignty of the states contained in the withholding provisions of the Victory Tax."

New Fiscal Policy Appraised

The New Philosophy of Public Debt.—By Harold G. Moulton. The Brookings Institution, Washington, D. C. 1943. *vi* + 93 *pp.* $1.00.

In this book the author analyzes and appraises the new conception of fiscal policy, namely, that a continuous expansion of the public debt is necessary for prosperity, and the size of an internal public debt is immaterial. He discusses also the bearing of this new philosophy on inflation and post-war plans.

Wartime Public Works Services

Public Works Engineers' Yearbook—1943.—*American Public Works Association, 1313 E. 60th St., Chicago, Ill.* 1943. *vii* + 333 *pp.* $3.75.

This volume contains the papers, reports of conferences, and the discussions of the Public Works Congress held at Cleveland in October 1942, which was devoted largely to the administrative and technical problems involved in carrying on public works services under fast-changing, war-brought conditions. It brings to the administrators and engineers of this field up-to-the-minute information on a number of topics including employee relations, financial programming, public works in civilian defense, substitutes and salvage, traffic, airports, highway design revision, wartime operation of sewerage systems, and developments in refuse collection and disposal.

Legal Problems of Civilian Defense

Legal Aspects of Civilian Protection.—Prepared by the American Bar Association for the United States Office of Civilian Defense, Washington, D. C. 1943. *ix* + 242 *pp.* 35c. *Apply to Superintendent of Documents, Washington, D. C.*

The direct scope of this manual has been confined to the legal aspects of civilian effort as they relate to the protection and safety of the public, in terms, chiefly, of community values. Discusses the organization of civilian defense (including texts of model statutes and of an ordinance for civilian defense organization), the relation of military authority to civilian defense, and liability problems.

Post-War Public Works Planning

Interim Report of the Temporary State Commission for Post-War Public Works Planning.—Temporary (N. Y.) State Commission for Post-War Public Works Planning, Albany, N. Y. 1943. 91 *pp.*

Report which describes the organization of this Commission, summarizes its activities and recommendations with regard to state and city projects, and discusses the progress being made in the field of post-war public works planning by New York municipalities and the Federal Government.

State Post-War Planning

State Organization for Post-War Planning.—Prepared by Dorothy C. Tompkins. Bureau of Public Administration, University of California, Berkeley, Calif. 1943. 16 *pp.*

Lists the states in which there are agencies engaged in post-war planning activities (special post-war planning agencies have been set up in some states, while in others the post-war planning function has been added to the duties of previously established organizations) and briefly describes the powers, duties, and organization of these agencies.

Graphic Methods for Publicity

Two publications of the National Publicity Council for Health and Welfare Services, 130 E. 22nd St., New York City.

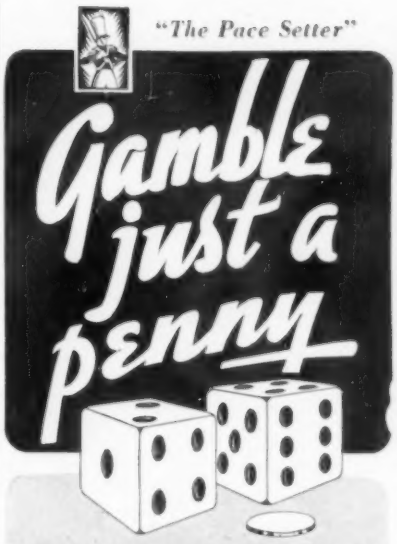
Exhibits—How to Plan and Make Them.—1943. 30 *pp., offset.* 60c.

This pamphlet deals with the subject of making and planning exhibits for the purpose of education and publicity. Consists of contributions from six people on the subjects of: the necessity of putting on a show; how to make and use an exhibit; the application of art principles to exhibit making; examples of exhibit techniques; and exhibit materials. Contains many illustrations of the effectiveness of graphic methods.

Photographs—and How to Use Them.—By *David Turteltaub.* 1941. 32 *pp.* $1.00.

This is a study of the psychology, the social content, and the effective use of pictures in publicity and interpretation. It deals chiefly with photography as an aid in the public health and social welfare fields, and discusses ideas for pictures, pictures as symbols, pictures that keep confidences, pictures of individuals who represent groups, photographing intangibles, tying pictures together by means of a theme, and the actual process of getting the pictures. Many illustrative photographs.

"The Pace Setter"



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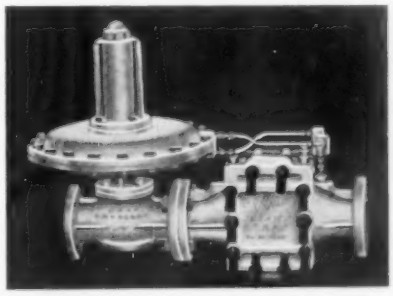

Fig. No. 440. "VAREC" Approved Pressure Relief and Flame Trap Assembly maintains a predetermined back-pressure throughout the system, passing surplus gas to the burner. It stops flame propagation. Non-corrosive aluminum construction.

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Camden, N. J.

Ordinance Codification

Latest Codified Ordinances of Cities Over 100,000 Population and Selected Smaller Cities.—Compiled by M. Margaret Kehl, Municipal Reference Library, New York City. 1943. 5 *pp., mimeo.*

List compiled from information received directly from those cities of which the Municipal Reference Library of New York City maintains a file of documents. It includes the name of the city, the date of its latest amended charter, populations in 1940, type of government, and its latest codified ordinances.

Financing Capital Projects

New York City's Debt and Future Capital Outlays.—By Herbert S. Swan, Industrial Consultant. Institute of Public Administration, 261 Broadway, New York City. 1943. *vi* + 51 *pp., mimeo.*

In this report, Mr. Swan sets out to answer such questions as: What are the financial implications of the Master Plan? What will it cost in the long run? Can the city's taxpayers afford the plan?—and in so doing, he has appraised the financial resources of the city available for capital projects within the near future, hoping that a rational and satisfactory basis may be found for carrying out some such Master Plan.

Planning for War and Peace

National Resources Development Report for 1943—Part 2.—National Resources Planning Board, Washington, D. C. 1943. *v* + 116 *pp.* 30c. *Apply to Superintendent of Documents, Washington, D. C.*

This is Part 2 of the recent National Resources Planning Board report, called "Wartime Planning for War and Post-War," which presents the current planning activities for stabilization and development. Divided into sections covering: wartime planning for resource use; trends in production, employment, prices, and consumption, 1942; public works planning; and regional, state, and local planning.

Post-War Rebuilding

"We Will Build Again" and "Planning for Urban Redevelopment"—Committee on Post-War Reconstruction, American Institute of Architects. Reprinted from "The Octagon," May 1943. 1741 New York Avenue, N. W., Washington, D. C. 20 *pp.*

Parts I and II of the statement on post-war reconstruction problems by the Committee on Post-War Reconstruction of the American Institute of Architects, which was to form the basis for a discussion at the annual meeting of the Institute in May, 1943, discusses the foundations for planning, and various aspects of the problem of urban redevelopment having significance for architects.

Government Employee Retirement Systems

Retirement Systems for State and Local Government Employees.—Bureau of the Census, United States Department of Commerce, Washington, D. C. 1943. 24 *pp., offset.*

This report consists of six tables, summarizing the number, coverage, benefits, beneficiaries, contributions, and assets of all state and local government employee retirement systems. In the first three tables, the nation-wide total statistics are resolved into totals for state, city, county, and township, and into population classes of municipalities and counties. The last three tables summarize separately the systems in each state.

Property Assessment Procedure

Property Assessment in New York State.—By C. A. Bratton. Department of Agricultural Economics, New York State College of Agriculture, Cornell University, Ithaca, N. Y. 1943. 25 *pp., mimeo.*

Concise, outlined discussion of numerous aspects of property assessment procedure, including equalization of assessments, in New York State.

P. R.—The Case Against It

P. R., Democracy and Good Government.—By F. A. Hermens. "The Review of Politics," Notre Dame, Ind. 1943. 90 *pp.* $1.25.

Dr. Hermans' longer work, *Democracy or Anarchy?*, is the standard anti-P. R. study which has appeared in this country. This pamphelt summarizes his conviction that P. R. is an anti-democratic device which will, in the long run, atomize the electorate and lead to government by bloc. More than half the study is devoted to experience with P. R. in American cities. Brief analyses of its operation abroad will be useful to American readers. The author's principal objection to P. R. is that it does not insure political "authority" through definite majority rule.

PHILLIPS BRADLEY.

Appraising Housing Quality

A Technique for Measuring the Quality of Housing in Urban Problem Areas—Part I—Nature and Uses of the Method.—Committee on the Hygiene of Housing, American Public Health Association, 310 Cedar St., New Haven, Conn. 1943. 33 *pp., mimeo.*

Description of the appraisal method developed and tested by the Subcommittee on Appraisal of Residential Areas, a method of measuring the quality of housing in a way which will serve the policy-making purposes of all local agencies concerned with housing. Illustrates the type of results this technique will produce, and sketches its implications for local housing policy.

Role of the Discussion Group

Democracy by Discussion.—By Emory S. Bogardus. American Council on Public Affairs, 2153 Florida Avenue, Washington, D. C. 1942. *viii* + 59 *pp.* $1.00.

This little book is intended to help educational agencies—such as schools, colleges, and libraries—to do their job of establishing forums and discussion groups. The author describes various types of discussion groups and shows us how problem solving can be speeded up through the deliberative process. Gives specific suggestions on how to make discussion come to focus.

County Consolidation

Areal and Functional Consolidation of Tennessee Counties.—By C. E. Allred, Agricultural Economist and B. H. Luebke, Assistant Agricultural Economist. Agricultural Economics and Rural Sociology Department, Agricultural Experiment Station, University of Tennessee, Knoxville, Tenn. 1943. *iii* + 39 *pp., offset.*

A monograph dealing with the territorial and functional consolidation of counties in Tennesse, which discusses the desirable size of counties, county consolidation—actual and proposed, and the arguments for and against consolidation. The study concludes that the formation of large counties is an important step towards reducing the costs of government.

Other Reports Received

Point Control of Traffic.—Safety Division, International Association of Chiefs of Police, 918 F St., Washington, D. C. 1943. 32 pp.

Volunteer Fire Departments.—National Fire Protection Association, 60 Batterymarch St., Boston, Mass. 1943. 32 pp. 25c.

Third Short Course on Highway Development.—Ohio State University, Columbus, Ohio. 1943. 54 pp., mimeo.

Publications received from British Information Services, 30 Rockefeller Plaza, New York City (All published by His Majesty's Stationery Office, London.):

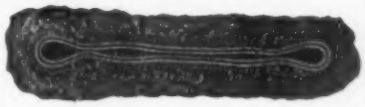
The Determination of Blood Groups.—Medical Research Council War Memorandum No. 9. 1943. 19 pp. 10c.

How to Keep Well in Wartime.—Issued for the Ministry of Health by the Ministry of Information. 1943. 24 pp. 10c.

Pests and Diseases in the Vegetable Garden.—Ministry of Agriculture and Fisheries. 1943. 20 pp. 10c.

Manuring Fruit Crops in Wartime.—Ministry of Agriculture and Fisheries. 1943. 11 pp. 10c.

WHY—



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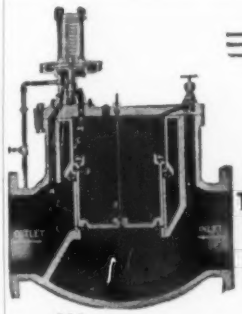

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The valve is semi-throttling by gradually closing as water approaches the maximum water level to be controlled. The valve is self-contained without any waste of water from above the valve piston, and is especially desirable for service where a low head is to be maintained against a higher influent pressure.

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"We have been using Tube-Loy with success for quite some time."

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"Type K Tube-Loy giving satisfactory service."

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"We are using Tube-Loy for services since July 1942. So far have found it very satisfactory."

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"Have been using Tube-Loy and like it very well."

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"We have been using Tube-Loy for over a year and it is giving results."

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"Satisfactory."

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Several nation-wide surveys on the performance of Asarco Type K Tube-Loy have been conducted recently. These surveys were directed to Water Works Superintendents, Public Utility Engineers, and Departments of Water Supply, Gas and Electricity of many municipalities. The few comments shown here, from the innumerable satisfactory replies are typical. Here is the evidence that Asarco Type K Tube-Loy can be relied upon to perform.

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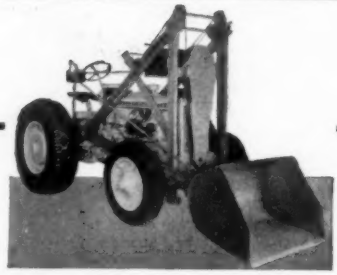

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Managing Commercial Vegetable Crops in Wartime.—Ministry of Agriculture and Fisheries. 1942. 12 pp. 10c.

Community Feeding in Wartime.—Women's Voluntary Services for Civil Defense. Second Edition. Revised. 1941. 39 pp. 25c.

ATLANTA, GA.—Annual Report of City Comptroller for the year 1942. 93 pp.

CINCINNATI, OHIO.—"Yearbook." City Manager's Annual Report, 1942. 86 pp.

DES MOINES, IOWA.—Annual Report, City Plan and Zoning Commission. 42 pp., mimeo.

GREENWICH, CONN.—Summary of the Annual Report for the fiscal year January 1-December 31, 1942. 94 pp.

HOLLAND, MICH.—Annual Report, Board of Public Works, for the fiscal year ending December 31, 1942. 63 pp.

HONOLULU, HAWAII.—Biennial Report of the Board of Water Supply for the biennium ending December 31, 1942. 166 pp.

LYNCHBURG, VA.—Annual Report for the fiscal year ending December 31, 1942. 51 pp.

MARQUETTE, MICH.—Reports for the year ended December 31, 1942. 96 pp.

MASON, IOWA.—Annual Report, 1942-1943. 23 pp.

MCPHERSON, KANS.—Annual Report for the year ending December 31, 1942. 48 pp.

MILWAUKEE COUNTY, WIS.—Financial Summary, 1939-1942. 92 pp.

NEW ROCHELLE, N. Y.—Annual Report, City Auditor, for the year 1942. 161 pp.

NEW YORK.—"Tax Collection and Tax Delinquency in 15 Rural New York Counties."—By C. A. Bratton. Department of Agricultural Economics, N. Y. State College of Agriculture, Cornell University, Ithaca, N. Y. 1943. 53 pp., mimeo.

NORTH CAROLINA.—"Number of Men, Working Hours and Salaries in North Carolina Police and Fire Departments, fiscal year 1942-1943." North Carolina League of Municipalities, Raleigh, N. C. 1943. 7 pp., mimeo. 25c. Free to officials of member municipalities.

OGLESBY, ILL.—Annual Report, Department of Accounts and Finance, May 1, 1942-April 30, 1943. 55 pp.

PORTLAND, MAINE.—Annual Report, City Planning Board, 1942. 24 pp., mimeo.

SALT LAKE CITY, UTAH.—Annual Report, City Auditor, for the year ended December 31, 1942. 78 pp.

SASKATCHEWAN, CANADA.—Annual Report, Department of Highways and Transportation, for the fiscal year ended April 30, 1942. 52 pp.

TEXAS.—"State and Local Financial Relations in Texas."—By H. C. Bradshaw. Texas Agricultural Experiment Station, College Station, Texas. 1942. 26 pp.

TOLEDO, OHIO.—Financial Report, City Auditor, for the year ended December 31, 1942. 44 pp.

VIRGINIA.—"Statistics on Police Administration in Virginia—Part III—Organization."—League of Virginia Municipalities, 902 Travelers Building, Richmond, Va. 1943. 6 pp., mimeo. Free to Virginia municipal officials.

WASHINGTON.—"Six-Year Public Improvement Program, State of Washington."—Washington State Planning Council, Olympia, Wash. 1943. 71 pp., mimeo.

—"Curfew Ordinances."—Washington Municipal Bulletin, May 3, 1943. Association of Washington Cities cooperating with Bureau of Governmental Research, University of Washington, Seattle. 7 pp., mimeo.

WESTMONT, QUEBEC.—Annual Report for the year 1942. 44 pp.

WINCHESTER, VA.—Report of City Manager, 1942. 19 pp.

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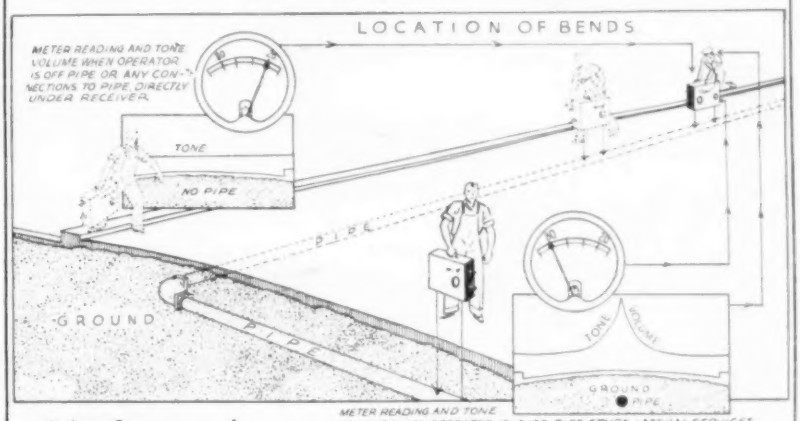
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News and Illustrations

Items of Interest to City, Town and County Officials and Others Concerned with the Economical Construction and Efficient Operation of Public Improvement Undertakings

Proportioneers Announce New De Luxe Feeder

This pump incorporates the suggestions of more than 1,000 water-works operators concerning chemical feeding.

Trace down all the objections that you can think of covering chemical feeding in the water-works field. You will probably find that Proportioneers, Inc., 99 Codding St., Providence 1, R. I., have attacked them, and uncovered a workmanlike answer when this company designed its new chemical feed pump.

Shot feeding, an objection presented by some water-works authorities, has virtually been eliminated by revisions in the design of the stroking arm. The new design provides that 90 per cent of the stroking time is spent to discharge chemical, while only 10 per cent is used for the short suction stroke. An airdome in the sight feeder builds up pressure and acts as an equalizer to minimize still further the small 10 per cent differential—thus making the feed almost continuous.

Clogging in the pump should no longer be a problem as a result of developments in the foot valve. This clogging occurs only when the water to be treated is hard and the calcium hypochlorite produces a precipitate. It can be removed from the water entering the pump by a filtering medium, such as glass wool, placed in the valve. Simplification has been achieved by making parts on the foot valve interchangeable with the injection nozzle.

Chemical feed selection has been developed to a fine point by connecting the selection knob directly to the displacement mechanism, rather than making it dependent on control from the belt drive. This minimizes errors that might arise because of possible belt slippage.

An easy-to-read dosage calculator is permanently mounted on the pump, giving the stroke length setting and stroke rate for various pumping rates. These usually are in a book that can be misplaced.

The pump derives its power from a standard 1/6 hp motor—similar to those used almost universally by equipment such as oil burners, refrigerator units—that can be obtained locally. There is no danger of overloading. A 1/10 hp motor could carry the load if required.

Eliminating Timber Decay

The Osmose Wood Preserving Co., 1437 Bailey Ave., Buffalo, 12, N. Y., assert that it has a practical answer to the problem of wood preservation.

When wood is used, it starts decay where timber contacts timber—at the ends of timber, at all timber seats, and at bolt holes. To prevent this decay, this company states that you can apply its nationally-used Osmoplastic by hand with a brush at any time prior or during installation.

The Osmose Wood Preserving Company states that Osmoplastic is a scientific mixture of Osmosalts and refined coal tar. As the timber absorbs moisture, the salts leave the creosote and penetrate the timber as deeply as the moisture. The coal tar does double protection by remaining on the surface.

The company states that this type of protection is being used by the Army Signal Corps for telephone poles in the lines running from Edmonton, Alberta to Fairbanks, Alaska, and was used in the construction of bridges on the Alcan Highway.

Harley-Davidson Gets Production Award

On May 12 the management and employees of the Harley-Davidson Motor Co., Milwaukee, Wis., officially received the coveted Army-Navy "E" production award in recognition of performance on the production front.

Col. C. J. Otjen, Commanding Officer of District 2, was the principal speaker and presented the "E" flag which was accepted by President Wm. H. Davidson.

Lieut. Commander F. V. List spoke in behalf of the Navy and awarded the token "E" pins to representative employees.

Still Built Like a Mack

Post-war motorists may be driving in super-streamlined, engine-in-the-rear, teardrop-design vehicles; but in appearance the truck of the future will differ but little from today's designs, according to engineers of Mack Trucks, Inc., 350 Fifth Ave., New York—who should know. A cube is still the best bet when it comes to getting the most merchandise within the smallest area. This fact alone will keep truck bodies within the confines of conventional design.

However, magnesium, aluminum, high-grade secondary aluminum, and a host of other lightweight materials are going to cut truck weight and allow for that much more weight in payload. Signs point toward a lighter engine, with greater horsepower in proportion to weight as compared with present engines. High octane gasoline will play a major role in the engine development.

Columbia Honors John Van Nostrand Dorr

Adding to the luster of John Van Nostrand Dorr's already outstanding career, Columbia University at its 189th commencement exercies on June 1, conferred on this eminent engineer the honorary degree of Doctor of Science, in recognition of his contributions to metallurgical, sanitary, and chemical engineering.

The citation of award honored Mr. Dorr's lifetime of work as having been "of exceptional service to the American people. . . ." Estimates by The Dorr Co., Inc., 570 Lexington Ave., New York, of which he is head, state that his processes and basic inventions contribute directly to the health and well-being of 50 million people by modern methods of sewage and water treatment.

This is not the first of the honorary degrees that Mr. Dorr has received. In 1914 Rutgers University, from which he graduated in 1894, made him a Master of Engineering; and in 1927 presented him with the honorary degree of Doctor of Science. In 1940 both the South Dakota School of Mines and the Michigan College of Mining & Technology conferred upon him honorary degrees of Doctor of Engineering.

John Van Nostrand Dorr

A Suggestion to CONTRACTORS

McWane pipe and fittings and McWane service can help you get contracts and make a profit.

Many jobs require several sizes of pipe and fittings. McWane manufactures cast iron pipe and fittings, in sizes, 1¼", 1½", 2", 2½", 3", 4", 6", 8", 10" and 12".

SMALL pipe! BIG pipe! All sizes—with necessary fittings—can be shipped in one car saving time, handling and freight.

All sizes can be ordered from McWane on one form—saving correspondence, checking, billing, extension of priorities, etc.

McWane can handle your complete pipe requirements—save you time, work, trucking, labor and money. Immediate shipments!

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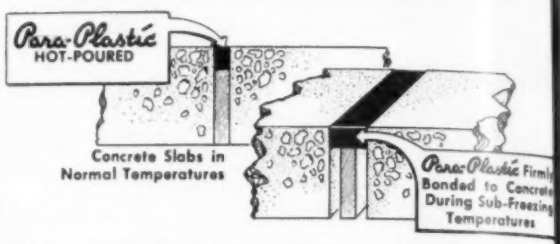
HOT-POURED RUBBER-LIKE WATERPROOF SEALING COMPOUND



Widely recognized and formerly known as Para-Plastic Hot Poured Rubber Sealing Compound, "the effective waterproof seal"—Servicised has recently developed a VICTORY PARA-PLASTIC after many months of experimental research.

VICTORY PARA-PLASTIC is composed of non-critical materials, (containing no rubber) and fully conforms with Federal Specifications SS-F-336 covering a hot-poured sealing compound as well as Civil Aeronautics Association Specifications No. P-605.

VICTORY PARA-PLASTIC bonds firmly with concrete, steel or wood, and serves as a joint or crevice sealer against infiltration of water. This material is not affected by ordinary extremes of summer or winter weather.

Specify VICTORY PARA-PLASTIC Hot-Poured Rubber-Like Sealing Compound as your waterproof protection in general construction.

ENGINEERS AND OFFICIALS:
Additional information and Specifications will be furnished you upon request.

SERVICISED PRODUCTS CORP.
6051 West 65th Street Chicago, Ill.

Flink-Faster-Lower Cost Ice Control & Seal-Coating

SAVED $7,000

A northern city writes: "We saved about $7,000 spreading sand alone our first season. Paid for the cost of Flink spreaders nearly 6 times over."

Another city writes, "Ice is no longer a problem. Now we get our intersections covered fast."

Let us show you these and other letters.

The truck driver operates the Flink one-man spreader. For this reason, and because it spreads faster, one truck with a Flink spreader does as much as 3 trucks with hand shovelers . . . an answer to the manpower shortage. The Flink spreader fits all standard dump bodies—does not limit use of truck. Spreads all granular materials up to 1" wet or dry, forward or backward, full width or half width of street. A Flink spreader will pay for itself in 60 days in labor saved—in extra spreading. Write for literature.

THE FLINK CO.
Streator, Illinois

For particulars write our nearest representative:

WICO SALES
2924 N. Western Ave., Chicago
WISCONSIN OIL & EQUIP CO.
34 Park Ave., Oshkosh, Wisc.
G. W. CLEMENTS
421 Townsend Ave., Columbus

SAVE 50% ON FUEL—HEAT AND MELT TAR AND ASPHALT TWICE AS FAST

WITH THE
AEROIL "HEET-MASTER" KETTLE

The "HEET-MASTER" will produce as much "hot stuff" as two ordinary type oil-burning kettles of the same capacity. Used by leading road and airport contractors. Send for FREE Bulletin No. 194AC. For Cut-Back and Emulsion Sprayers, Bulletin No. 190A. Oil-burning Lead and Pipe Compound Melting Furnaces, Bulletin No. 232AC. Portable Oil Burner & Torch Outfits, Bulletin 174A. Asphalt Paving Tools & Accessories, Bulletin 312A. Asphalt Paving Tool Heaters and Asphalt Pavement Heaters, Leaflet 171A.

Aeroil Burner Co., Inc., West New York, N. J.
CHICAGO SAN FRANCISCO DALLAS

AFTER THE WAR

KEEP YOUR CITY CLEAN

WITH "THE MACHINE OF A DOZEN USES"

ETNYRE SANITARY STREET FLUSHERS
E. D. ETNYRE & CO., OREGON, ILLINOIS

Saran pipe, a plastic product, fits easily into a number of places where water supply is involved.

Plastic Pipe for Water Supply

Plastic pipe, after dodging a deluge of damning accusations prophesying that it would melt, crack, or squirm like a snake, is now demanding a place in the waterworks and related municipal fields. Not content to be labeled merely a wartime substitute, it sturdily announces its desire to compete against the field as a permanent, economical liquid-carrying medium.

Saran pipe, made by the Acadia Synthetic Products Division of the Western Felt Works, 4115 Ogden Ave., Chicago, Ill., is manufactured from a thermoplastic resin that already has proved itself in numerous difficult applications. It ranges in size from one-half to four inches, and a complete line of fittings is available for all sizes from one-half to two inches. The weight is approximately one-fourth the weight of comparable sizes of iron or steel pipe.

The pipe is unusually easy to weld. All that is required is to place the two ends on a smooth nickel or chromium plate, heated to a temperature of 350° to 400°F, long enough to slightly melt them. Then remove the pieces from the hot plate, place them together in the desired position, and allow to cool. Time required for cooling is about 10 seconds. The entire operation requires less than a minute.

The pipe can be threaded with standard pipe-threading tools. However, it is imperative that the dies be sharp for the reason that dull dies have a tendency to deform the threads.

Iron and CO_2 Removal

The problem of removing iron and carbon dioxide, two objectionable qualities in municipal water supply, receives a double-barrelled attack by the new equipment that the American Well Works, Aurora, Ill., is now producing.

This equipment, known as the American Ferrofilter, supplants the expensive and more commonly used coke tray aerator and sand filter combination. It consists of a bed of graded anthracite, supported by a false bottom which forms both a backwash and an underdrain system. A rotary aerator applies the water to the surface, giving a uniform passage over the entire area. The height of the aerator can be varied to supply the oxygen requirements of the water and, at the same time, not over-aerate the liquor.

The filter is designed with an anthracite medium to take advantage of the shiny surfaces which backwash easily and quickly, and do not form incrustations. No rate of flow controllers are required because the Ferrofilter is a free trickling device.

The company further states that the filter may be adapted to various places in sewage-treatment work, as well as to the treatment of industrial wastes.

New Duties for Spain at Caterpillar

G. E. Spain is the new administrative vice-president of the advertising, sales, export, engine sales, special products, and war contracts departments at Caterpillar Tractor Co., Peoria, Ill., succeeding D. A. Robinson who has resigned as vice-president to become the company's distributor at Salt Lake City.

Mr. Spain has been associated with Caterpillar since 1929, holding down administrative positions in the merchandise, engine, and engine sales departments and the sales development division. He became general sales manager in 1940 and last year was made vice-president. He has been in charge of operations at San Leandro for the past year.

Industrial BUILDINGS

by PITTSBURGH •DES MOINES

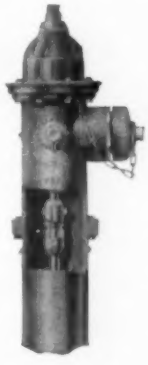
Planning new plant construction or additions? Pittsburgh-Des Moines' design, fabrication and erection will meet your most exacting requirements — with speed and craftsmanship — under a single contract and undivided responsibility. Write!

PITTSBURGH · DES MOINES STEEL COMPANY

Pittsburgh, Pa. . . 3412 Neville Island
Des Moines, Ia. . . . 913 Tuttle Street

ARE YOU PREPARED FOR WAR'S INCREASED FIRE HAZARDS?

VALVES HYDRANTS *and* **PIPE LINE ACCESSORIES**



A.W.W.A. HYDRANTS

Underwriters Approved

Conform to American Water Works Association specifications. Approved and listed by Underwriters' Laboratories and Associated Factory Mutuals. Well known and widely used for many years.

M & H Fire Hydrants are dry top and revolving head. They are easy to lubricate. Maintenance costs are low because of simplicity of design and rugged construction. They have low friction loss and great efficiency because barrel diameter is not reduced and there are no working parts or obstruction in waterway. Special Traffic model is designed to yield at the ground line under impact. Repair is simple and easy by renewing breakable bolts and breakable coupling on stem.

M&H VALVE AND FITTINGS COMPANY

ANNISTON, ALABAMA

SAVE MANPOWER

WITH THIS NEW LETTERING MACHINE

DRAFTSMEN AND ENGINEERS ARE NOW BEING RELIEVED OF THE TEDIOUS WORK OF HAND-LETTERING DRAWINGS, PLANS, CHARTS AND SCHEDULES BY HAVING AN OFFICE CLERK DO THIS TIME-CONSUMING PART OF THE JOB, AT TYPING SPEED, WITH THE NEW ELLIOTT FISHER ELECTRIC LETTERING MACHINE.

This new lettering machine has a Flat Writing Surface, just like your drafting board—an exclusive Elliott Fisher feature. It will accommodate any size tracing or sheet.

The machine moves over the sheet, just like your pen when lettering by hand. Therefore, the clerk may rapidly type specifications and descriptions in any locations desired.

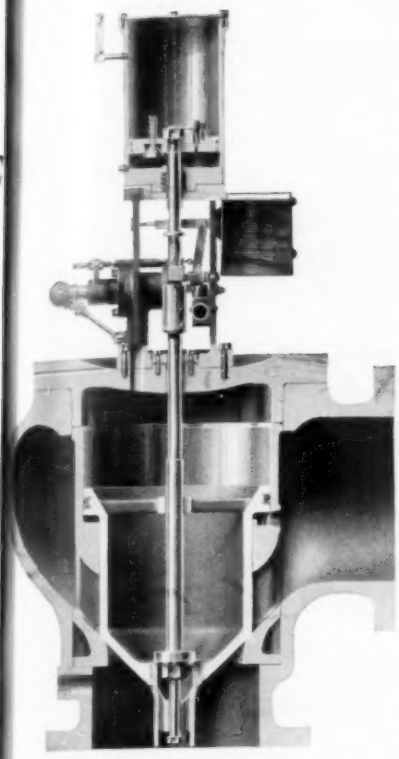
Why use the precious time of technically trained draftsmen for the monotonous work of hand-lettering, when a clerk can do this lettering faster and better by machine.

Let us give you full particulars.

UNDERWOOD ELLIOTT FISHER CO.

Manufacturers of the Famous Sundstrand Municipal Accounting Machine

One Park Avenue New York



A cross-section of the Pelton surge suppressor—protector of pipe lines.

Water-Works Sentries

While armed guards are a necessary protective measure for vital utilities, such as water works, during wartime, other measures equally protective have been in use for many years.

One of these has been the Pelton Surge Suppressor, manufactured by The Pelton Water Wheel Co., 19th & Alabama Sts., San Francisco, Calif. Equipment such as this, important on every pumping supply, guards against the dangerous back surge of water, created by pumping failure, which causes lines to rupture. When the pumping power fails or excess pressure surges are experienced from other causes, the suppressor automatically opens and releases the water.

Drake Gets New Duties

William P. Drake takes on new duties for the Pennsylvania Salt Mfg. Co., 1000 Widener Bldg., Philadelphia, Pa. Formerly manager of the Pennsalt Cleaner Division, he has now been promoted to the position of sales manager in charge of this company's sales of acid and alkali-resistant cements and chlorinated organic chemicals, as well as the products of the Pennsalt Cleaner Division.

Mr. Drake began work with the company in 1934 at the Wyandotte plant. Later he took over the sale of the new product, Orthosil, making his headquarters in Detroit. In 1939 he was appointed manager of the Pennsalt Cleaner Division.

Whiteprints with Maroon Lines

You can still read Ozalid Whiteprints of your engineering drawings after they become dirty.

These new Ozalid prints consist of maroon lines on a white background. Their contrasting colors stand out under actual job conditions. The maroon lines show even when covered with grease or dirt stains, making it possible to follow the smallest details.

Samples of Ozalid Whiteprints and a book "Simplified Printmaking," which completely explains the Ozalid Process, will be forwarded upon request.

A. E. Higgins Enters Air Corps

A. E. Higgins, vice-president and sales manager for the Pittsburgh Equitable Meter Co. and Merco Nordstrom Valve Co., Pittsburgh, Pa., received his commission as Major in the U. S. Army Corps on May 8, 1943, and has subsequently been called into immediate active duty.

Major A. E. Higgins

Major Higgins originally qualified as an army air pilot in 1918. A veteran of World War I, he has held a reserve commission for many years and enters the air corps with over 6,000 hours of solo credit.

He has flown his own plane throughout his entire business career.

Personnel Changes for Varec Systems

New men have been given the responsibility of sales engineering for The Vapor Recovery Systems Co., 2820 North Alameda St., Compton, Calif.

Clifford T. Stanhope is now in charge of the Varec eastern office at 30 Church St., New York. F. F. Tentschert, a sanitary engineer, will assist Mr. Stanhope in the sewage and marine divisions of the company.

Frank M. Holloway, formerly eastern sales manager, will assume new duties as southern sales manager with headquarters in New Orleans, La.

John L. Shaunty has been appointed manager of mid-continent sales, distribution, and service and will have complete charge of both the Houston and Tulsa offices.

A. J. Foley & Co., 7309 End Ave., Chicago, Ill., has been appointed Varec representative in the Great Lakes Area for sewage and marine equipment.

HIGHLY EFFICIENT FOR SEWAGE OR DRAINAGE

Morris "Axiflo" Screw Pumps are notable for two valuable characteristics . . . 1. their ability to handle large solids without danger of clogging and breakage . . . 2. their remarkably high efficiency. These are two of the reasons for their wide popularity in municipal pumping stations all over the country.

Bulletin on request

MORRIS MACHINE WORKS
Baldwinsville New York

MORRIS
CENTRIFUGAL PUMPS
for municipal services

FORD
MONITOR
COVERS

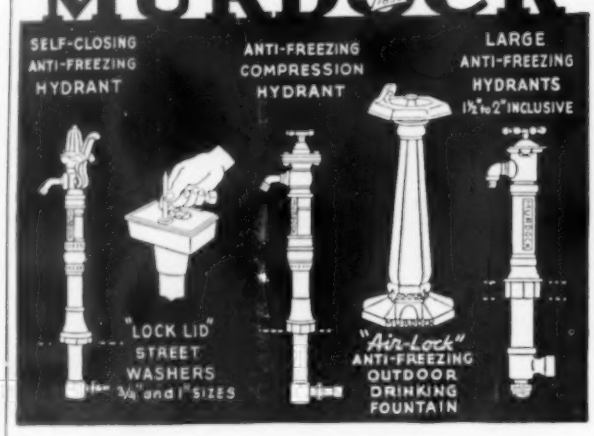
These covers are made for 24", 30" and 36" tile. All have 20" lid openings, are 7" in depth and can be provided with inner lids if so ordered.

Monitor Covers are satisfactory for 1½" and 2" meters, or for two or more smaller meters. All have the Lifter Worm Lock with forged Everdur bolts. Write for catalog.

FORD METER BOX CO.
WABASH, IND.

The Most Reliable Name on Water Service Devices —

MURDOCK


SELF-CLOSING ANTI-FREEZING HYDRANT
ANTI-FREEZING COMPRESSION HYDRANT
LARGE ANTI-FREEZING HYDRANTS 1½" to 2" INCLUSIVE
"LOCK LID" STREET WASHERS for ¾" and 1" SIZES
"Air-Lock" ANTI-FREEZING OUTDOOR DRINKING FOUNTAIN

Labor Costs Not Up Here

Cost records will disclose little or no increases in labor-repairs costs of Water Service Departments servicing MURDOCK Outdoor Water Devices.

Made of bronze, brass and iron (materials that defy time and elements) and designed for unremitting daily usage, they wear out slowly. Are anti-freezing, too.

An occasional rewashering is about all that's necessary and this simple repair can be made without digging up fixture.

These war days emphasize the fact that "it pays to specify and install MURDOCK."

THE MURDOCK MFG. & SUPPLY CO.
426 Plum Street — Cincinnati, Ohio

This Fence Was NOT Treated with CUPRINOL

In what condition are YOUR fences—in your parks and other public property? Wood rot and insect borers thrive on unprotected wood, but CUPRINOL, quickly applied by brush, spray or dipping will penetrate the fibres and eliminate the nourishment on which fungus and insects feed. Specified for the protection of woodwork in palaces, parks and public buildings in England, and used for over 30 years in Denmark, by itself and as a priming coat under paint. Write for information.

CUPRINOL, Inc., 26 Spring Lane, Boston, Mass.

CUT MAINTENANCE COSTS 75%

Concrete slab maintenance costs can be reduced as much as 75% by the Koehring Mud-Jack Method. The Mud-Jack raises sunken concrete walks, curbs and gutters, driveways, streets, and airport runways eliminating reconstruction costs. Write for the new Mud-Jack Bulletin which is both illustrative and descriptive.

KOEHRING COMPANY
Milwaukee, Wisconsin

MUD-JACK METHOD

SAVE WITH HEIL M-1
street sanitation and garbage collection equipment

Let us help you plan now for bigger loads, faster operation, more efficient performance after the war. Write for complete details today.

Heil Conveyor Sanitation Unit — Heil Enclosed Garbage Dump Unit

Heil Streamline Flusher

THE HEIL CO.
GENERAL OFFICES • MILWAUKEE, WIS.

Maritime "M" to Nordberg

The employees of Nordberg Mfg. Co., Milwaukee, Wis., received on May 17 the Maritime "M", awarded in recognition of outstanding production achievement. The "M" award consists of flying the Maritime "M" pennant and Victory Fleet Flag. Each employee receives a Maritime merit badge which he wears in connection with this award.

The Navy "E" pennant awarded a year ago now has two stars, an evidence of continued excellence in production.

Nordberg has been known for many years for its diesel and steam engines used in the municipal field.

How to Remove Broken Pipe Stubs

A new little pipe extractor has been developed by Reps Tool Co., Inc., 99 Wall St., New York, that is designed to attack the problem of removing broken pipe ends. The extractor comes in a set of ten different sizes and will fit pipe diameters varying from ⅛ to 2 inches. It also may be used on screws or bolts from ⅜ to 3½ inches by the simple expedient of boring a hole in the broken end.

The extractors have a four-point bite and their screw-like design allows them to work with only a shallow grip. They are made of forged, heat-treated, tool steel with a Brinnel hardness greater than any material on which they may be used.

A view of the pipe extractor—what it is and how it works.

Here is the "Squeez-Grip" with lever midway to being in "squeezed" position.

The "Squeez-Grip" For C-O-Two Extinguisher

The C-O-Two Fire Equipment Co., Newark, N. J., calls the new type of valve for its carbon dioxide fire extinguishers the "Squeez-Grip."

This valve is operated by a lever over the handle of the extinguisher. By squeezing it with one hand the valve opens and gas is discharged. In order to stop the flow of gas and close the valve the operator need only release the pressure of his hand.

The operator can easily carry the extinguisher in one hand and operate it with the other while in motion, thereby affording greater maneuverability around a fire. The pressure of the gas in the cylinder forces the valve tightly closed when it is released.

Jeffrey

FOR A COMPLETE LINE OF SEWAGE AND WATER-TREATMENT EQUIPMENT . .

Bar screens (mechanically-cleaned)
Chemical feeders (electric vibrating)
Floctrols (controlled flocculation)
Grit washers
Grit collectors
Primary and secondary sludge collectors
Sludge elevators
Screenings grinders
Scum removers
(All Patented)

Jeffrey engineers have had years of experience—have made many installations—can offer technical data on both equipment and plant design. Write

The Jeffrey Mfg. Co.

970-99 NORTH FOURTH STREET
COLUMBUS, OHIO

Baltimore, Birmingham, Boston, Buffalo, Chicago, Cincinnati, Cleveland, Denver, Detroit, Harlan, Houston, Huntington, Milwaukee, New York, Philadelphia, Pittsburgh, St. Louis, Salt Lake City, Scranton

ARMY TWILL "REEVES" SANFORIZED* MADE TO GOVERNMENT SPECIFICATIONS
REG. U.S. PAT. OFF.

REEVES Glengarrie POPLIN

Demand these labels when buying uniforms

UNIFORMS OF REEVES ARMY TWILL CAN TAKE IT!

The "City's Finest" require uniforms whose neat, trim appearance are a credit to the Force and to the City. They must wear long and well for the utmost economy. So specify *Reeves* famous fabrics the next time you are ordering *your* uniforms.

REEVES ARMY TWILL meets exacting U. S. Government Tests for better wear, longer life, and color-fastness. Its fabric vitality keeps it "in shape" under trying conditions.

For matching shirts, specify GLENGARRIE POPLIN, a durable, stylish fabric in a wide range of colors. Both fabrics are Sanforized* against shrinking.

*Fabric shrinkage not more than 1% (U. S. Government Test CCC-T-191-a.)

See your nearest dealer for uniforms, sport and work clothes made from these famous fabrics, or write for colorful leaflet to:

OVER 60,50 million yards of Reeves Army Twill sold to the U.S. Army

REEVES BROTHERS, INC.
54 WORTH STREET NEW YORK CITY

THREE WAYS
to get more out of your Burroughs machines

USE ALL SHORT-CUTS

Make sure operators are thoroughly familiar with and are using all of their machines' automatic features, keyboard controls and other special time-saving advantages. Write related records as one operation. Obtain statistics and figures for reports as a by-product of regular posting routines.

KEEP THEM IN GOOD CONDITION

Right now you can arrange for regular, periodic inspection, lubrication and adjustment of your Burroughs machines, to safeguard your office from emergency repairs and the delays they entail. A standard Burroughs Service Agreement provides this efficient protection at a moderate, predetermined cost. All work is guaranteed by Burroughs.

USE GOOD SUPPLIES

Your machines will produce more and better work if you use Burroughs carbon paper, roll paper, ribbons and other Burroughs supplies. They are manufactured to the exact specifications determined by Burroughs' experience. They are economical, too, with 10% to 40% discounts for quantity purchases.

Are you taking all these steps to get the most out of your Burroughs machines today? If not, let Burroughs help you. Call the local Burroughs office or write Burroughs Adding Machine Co., Detroit.

Burroughs

ADDING, CALCULATING, ACCOUNTING, BILLING, PAYROLL AND STATISTICAL MACHINES
NATIONWIDE MAINTENANCE SERVICE · OFFICE MACHINE SUPPLIES

MANUFACTURING FOR WAR

The manufacture of aircraft equipment for the Army Air Forces, and the manufacture of Burroughs figuring and accounting equipment for the Army, Navy, U. S. Government and the nation's many war activities, are the vital tasks assigned to Burroughs in the Victory Program.

Gamewell Announces New President

Frederick B. Philbrick is the new president and general manager of the Gamewell Co., Newton Upper Falls, Mass., following the retirement of V. C. Stanley, formerly president, general manager, and director of the company.

F. B. Philbrick

Mr. Philbrick has worked for Gamewell ever since 1920 and has been district manager for the Pacific Coast States, Alaska, and Hawaii for the past 14 years.

Summer Dustproofing

Do you know how to keep the dust nuisances under control on such hard-to-reach places as driveways, walks, or private paths—as well as on roads or streets?

The Wyandotte Chemicals Corp., Wyandotte, Mich. has developed a set of tables that aid in figuring the amount of calcium chloride required per square yard on packed gravel, new gravel, sand-clay surface, stone surfaces, tennis courts, playgrounds, and other similar areas. These are as follows:

AMOUNT TO USE PER SQUARE YARD

Kind of Surface	First Application Lbs. per sq. yd.	Second Application Lbs. per sq. yd.	Third Application (when required) Lbs. per sq. yd.
Gravel (packed)	1	½	½
Gravel (new)	1½	½	½
Sand-Clay	1½	½	½
Stone	1	½	½
Tennis Courts	1	½	¼
Playgrounds	1	½	½
Golf Greens (sand)	1	1	1

Tables are also prepared telling how to figure calcium chloride for various widths of road in pounds per lineal foot or tons per mile. These tables are calibrated to seasonal conditions.

Kohn New Manager for Fulton Bag

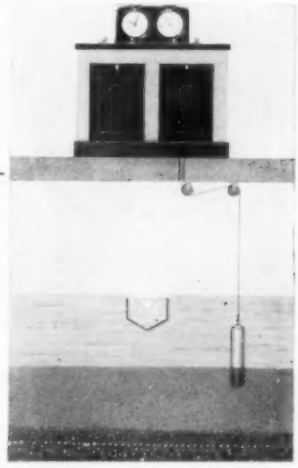
G. E. Kohn has been appointed the new manager of the Canvas Division for the Fulton Bag and Cotton Mills, Atlanta 1, Ga., following the death of H. B. Marbury, former manager. This company is heavily engaged in the manufacture of tents and similar material for the Army in addition to equipment, such as curing mats used in the construction of concrete roads, streets and landing fields. His experience includes well-rounded periods of engineering and sales, and practical work in mechanical arts and the electrical field.

Universal Engineering Wins Service Honors

Employees and management of the Universal Engineering Corp., Cedar Rapids, Iowa, well-known manufacturers of rock crushing and road surfacing equipment, received the Army-Navy "E" award for high achievement in production of war material on May 19, 1943.

Col. Max Brackett, commanding officer of the Savannah, Ill., Ordnance Depot; and Lieut. Commander Everett E. Pettee, commandant of the naval training station for WAVES at Cedar Falls, Iowa, officially represented the armed forces on the program. A. W. Daniels, president of Universal, praised the men and women of the shops whose loyalty and service had brought the award to this concern.

Army and Navy officers, executives of the company and token "E" pin and wearers display the red and blue "E" burgee.



Sand Expansion Gauge

Operating on a New Principle

To avoid formation of mudballs in filter bed and to conserve wash water, the importance of knowing ACCURATELY the expansion of the sand during washing is increasingly recognized. This Gauge is receiving high commendation from filter plant operators.

BULLETIN 335 TELLS MORE

Write to Builders-Providence, Inc.
9 Codding St., Providence, R. I.

Sincerely Yours,

BUILDERS - PROVIDENCE

APCO-V-APCO PRIMERS

AUTOMATIC
POWER
OR
TANK PRIMERS

AIR RELEASE VALVES

FOR
FILTER PIPE LINES
DISTRIBUTION LINES
AND OTHER USES
17 TYPES

VALVE AND PRIMER CORPORATION

Room 366—111 W. Washington St.
CHICAGO, ILL.

EVERYBODY EVERY PAYDAY 10%

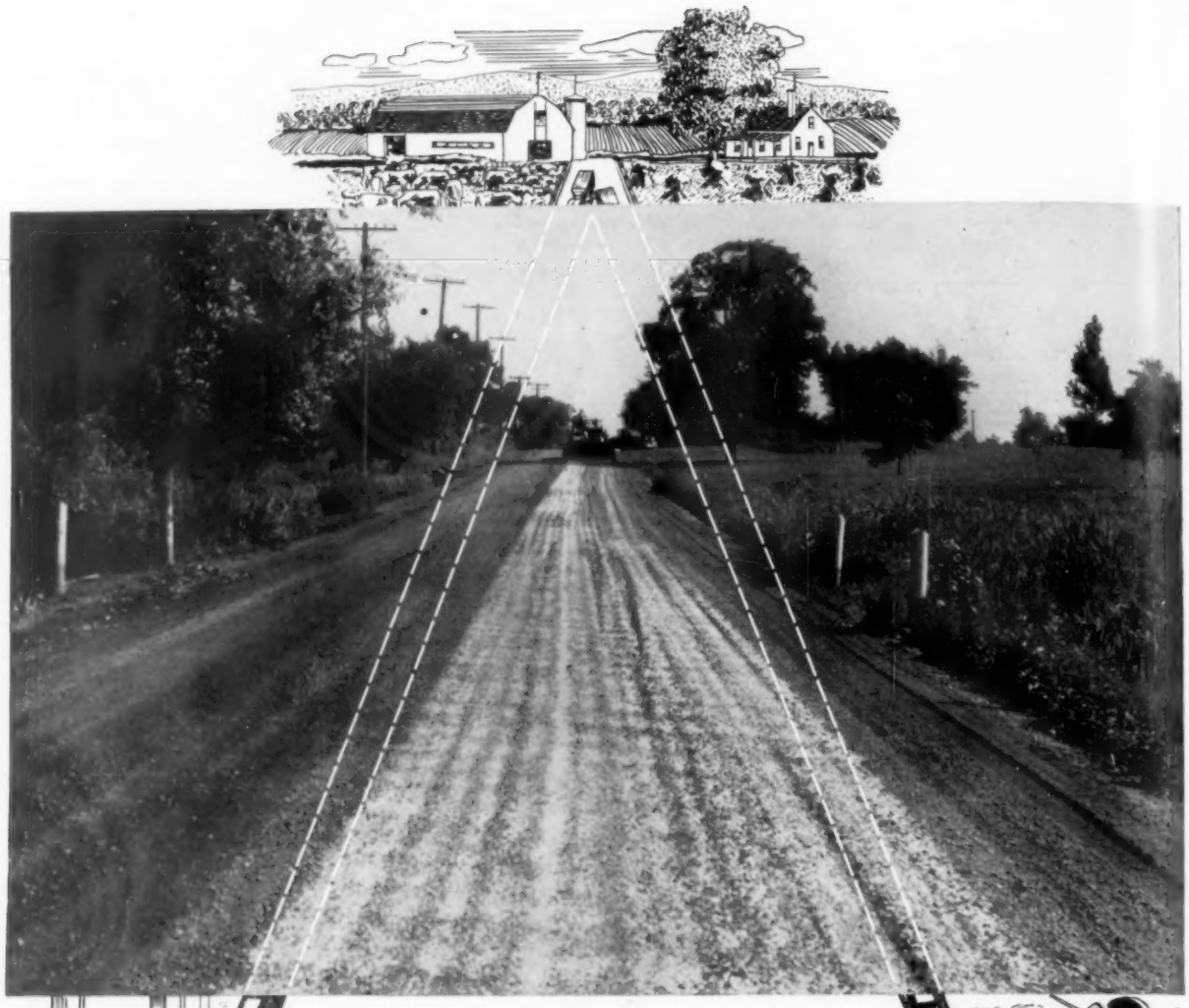
IN WAR BONDS

★ ★ ★ ★ ★ ★ ★ ★ ★

Payroll Savings Plan!

Along with increased war production goals go increased costs . . . extra billions which must be raised, and raised fast, to win this war. That means we must raise our sights all along the line, with every firm offering every American with a regular income the chance to buy more *War Bonds*. YOUR help is asked in encouraging employees to put at least 10 per cent of their pay into War Bonds every payday, through the Payroll Savings Plan. For details of the Plan, approved by organized labor, write, wire, or phone Treasury Department Section T, 709 12th Street N.W., Washington, D. C.

U S. War Savings Bonds



These Life-Line Roads MUST Be Maintained!

Meat, dairy products, grain, vegetables — all the foodstuffs so vital to keep our armed forces in fit fighting condition and our war workers at top production — start their journey over farm-to-market roads. Trucks that carry this ammunition to processing and distribution centers must move safely and surely in any weather, and their contents must not be contaminated by dangerous dust. ¶ Consolidation and dustproofing of gravel-type roads with clean, odorless, easy-to-apply calcium chloride provides this essential protection at extremely low cost. Tire wear is reduced, gasoline mileage increased and the highway department saves manpower and equipment, since blading is cut up to 90% and road materials are conserved. Write for free bulletin on "Surface Consolidation and Maintenance with Calcium Chloride."

CALCIUM CHLORIDE ASSOCIATION, 4145 Penobscot Building, Detroit, Mich.

P. R. Greenman Joins Ludlow Valve

P. R. Greenman has joined The Ludlow Valve Mfg. Co., Inc., Troy, N. Y., as industrial sales engineer in the Chicago territory.

P. R. Greenman

Mr. Greenman is a mechanical engineer and designer of wide experience in power plant, oil refinery, and coal handling equipment. His early work, following graduation from the University of Illinois was as designer of valves, tools, fittings, and special machinery for the Detroit Lubricator Company and the American Valve Company. Later connections were with the Wright-Martin Aircraft Co. as tool development engineer; as plant engineer with the Power Specialty Company of Danville, N. Y.; and from 1922 to 1934 as resident engineer with Foster-Wheeler in Chicago. In January 1935, Mr. Greenman joined the Favelle-LeVally Corp., as resident engineer in Chicago, returning in July 1937 to Foster-Wheeler, as Cincinnati district manager.

Army-Navy "E" for Union Metal

The employees of the Union Metal Mfg. Co., Canton, Ohio, were awarded the Army-Navy "E," symbolic of quality war production and quantity on schedule. On April 9 formal presentation "for meritorious and distinguished service to the country in its time of need" was made to Union Metal's president, C. A. Orr, and employee representative, Elmer G. Baird, by Major Ralph H. Coburn representing the U. S. Army.

Army-Navy "E" lapel pins were presented to the employees by Lt. Comm. Paul S. Sessions, USNR.

Curing Concrete

If you are having trouble finding burlap to cure concrete, look into the process known as Ritecure, a product of The Johnson-March Corp., 52 Vanderbilt Ave., New York.

This curing agent is a film containing a high per cent of solids, and is easily sprayed. It covers from 30 to 40 yards of fresh concrete per gallon and can be applied immediately after the concrete has been finished. While the product itself is colorless and non-staining, it contains a temporary green indicator that allows the operator to spray the surface without overlapping and that aids in inspection.

Ritecure, the manufacturer asserts, requires much less labor than does the handling of bulky covering materials. It requires only one application and does not require wetting down nor any final clean-up. It meets substantially all specifications, including that of the War Department.

Builders-Providence Wins Second "E"

Builders-Providence, Inc., 99 Codding St., Providence, R. I., prominent manufacturers of venturi meters, venturi controllers, gauges, and similar equipment used in water and sewage works, has won for the second time the Army-Navy "E," meritorious award for service on the production front.

Climax Engineering Acquires Company

Climax Engineering Co., Clinton, Iowa, recently acquired McAlear Mfg. Co., Chicago producers of valves, regulating and controlling equipment, according to Edward F. Deacon, Climax president.

Mr. Deacon will be president and general manager of the McAlear Co., while Mrs. P. G. McAlear, formerly president and chairman of the board, will continue to be actively identified with the management.

Products manufactured by McAlear Mfg. Co., are widely used in the same fields served by Climax Engineering.

HYDRO-TITE

HYDRO-TITE — The self-caulking joint compound that makes cast iron water pipe joints — strong — tight — flexible and everlasting. Used on thousands of miles of pipe with a record of more than 30 years without a failure.

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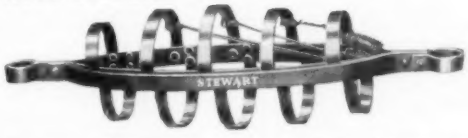

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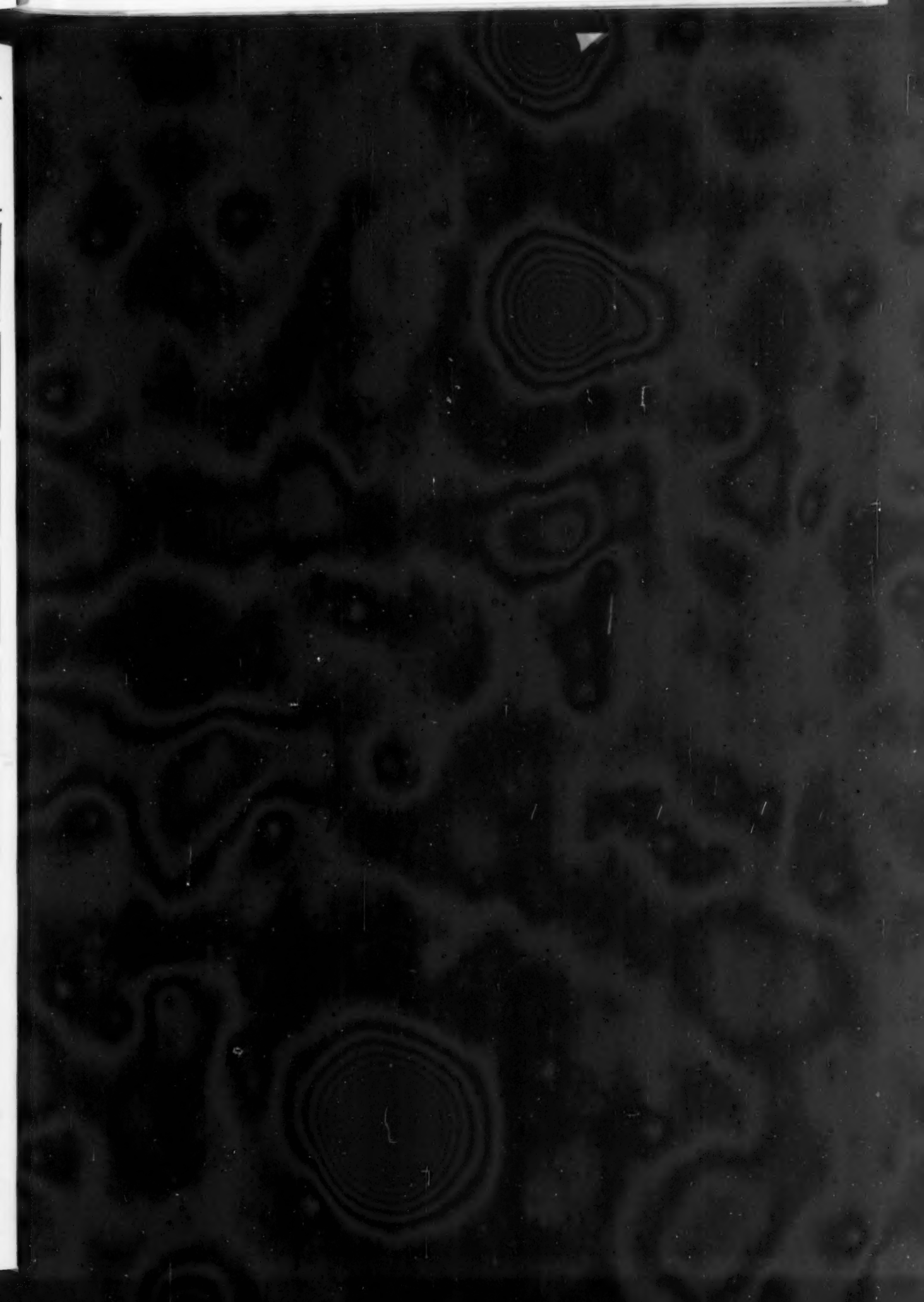

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The American City

When the Boys and Girls Come Home

Just a quarter century ago next month—in the September 1918 issue of this magazine—The American City devoted its front cover and a leading editorial to urging forethought by community leaders in the planning of living memorials to the men making the supreme sacrifice in the war then being fought.

It seems timely to renew this suggestion now. No one could have known in the summer of 1918 that the fighting would not outlast that fall. The American City does not now predict that the Axis nations will all crack up this year. But forethought may well anticipate the victory now being won.

To honor the heroes of World War I, The American City urged that, instead of monuments or statues, memorials be erected which would serve the survivors and strengthen the democracy for which the war was being fought. Community buildings were suggested as a particularly fitting type of such memorial. The idea took hold so well that a National Committee on Memorial Buildings was organized, with the cooperation of the War Camp Community Service and other organizations. Up to May 1, 1920, according to a report then issued, 452 memorial buildings of various types had been erected or assured in communities, large and small, throughout the United States. These structures included:

Community buildings	218	Club houses	16
Auditoriums and similar structures	79	City and town halls	14
Hospitals	43	Libraries	14
Museums, galleries, college buildings, etc.	42	Schools	8
		Churches and chapels	12
		Y.M.C.A. buildings	6

In 1943 many cities and towns still need community buildings. In others local imagination will suggest other worthy types of living memorials that will serve the living while commemorating the dead.

The American City will cover this subject in greater detail in an early issue.